



Exercícios codificados

I n d i c e

1	Exercício 01 – EXER0001.....	3
2	Exercício 02 – EXER0002.....	6
3	Exercício 03 – EXER0003.....	10
4	Exercício 04 – EXER0004.....	14
5	Exercício 05 – EXER0005.....	18
6	Exercício 06 – EXER0006.....	24
7	Exercício 07 – EXER0007.....	30
8	Exercício 08 – EXER0008.....	36
9	Exercício 09 – EXER0009.....	42
10	Exercício 10 – EXER0010.....	48
11	Exercício 11 – EXER0011.....	54
12	Exercício 12 – EXER0012.....	62
13	Exercício 13 – EXER0013.....	71
14	Exercício 14 – EXER0014.....	78
15	Exercício 15 – EXER0015.....	85
16	Exercício 16 – EXER0016.....	93
17	Exercício 17 – EXER0017.....	100
18	Exercício 18 – EXER0018.....	105
19	Exercício 19 – EXER0019.....	110
20	Exercício 20 – EXER0020.....	119

1 Exercício 01 – EXER0001

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0001.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* GERAR ARQUIVO DE PECAS SELECIONADAS
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
        DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
        SELECT CADPECA ASSIGN TO UT-S-CADPECA
        FILE STATUS IS FS-CADPECA.
*
        SELECT CADATU ASSIGN TO UT-S-CADATU
        FILE STATUS IS FS-CADATU.
*
DATA DIVISION.
FILE SECTION.
*
FD CADPECA
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADPECA.
01 REG-CADPECA.
05 COD-PECA PIC 9(05).
05 NOME-PECA PIC X(30).
05 QTD-PECA PIC 9(05).
05 QTD-MINIMA PIC 9(05).
05 QTD-MAXIMA PIC 9(05).
05 FORNECEDOR PIC X(05).
05 PR-UNITARIO PIC 9(07)V99.
05 PERDA PIC 9(07)V99.
05 TIPO PIC X(01).
05 FILLER PIC X(06).
*
FD CADATU
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADATU.
01 REG-CADATU.
05 COD-ATU PIC 9(05).
05 NOME-ATU PIC X(30).
05 QTD-ATU PIC 9(05).
05 QTD-MIN-ATU PIC 9(05).
05 QTD-MAX-ATU PIC 9(05).
05 FORNEC-ATU PIC X(05).
05 PR-UNIT-ATU PIC 9(07)V99.
05 PERDA-ATU PIC 9(07)V99.
05 TIPO-ATU PIC X(01).
05 FILLER PIC X(06).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA DEFINIR FILE STATUS
*
77 FS-CADPECA PIC X(02) VALUE SPACES.
77 FS-CADATU PIC X(02) VALUE SPACES.
77 FS-COD-STATUS PIC X(02) VALUE SPACES.
77 FS-ARQUIVO PIC X(08) VALUE SPACES.
77 FS-OPERACAO PIC X(13) VALUE SPACES.
77 FS-ABERTURA PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO PIC X(13) VALUE 'NO FECHAMENTO'.
*

```

```

PROCEDURE          DIVISION.
=====
000-00-INICIO          SECTION.
=====

    PERFORM          001-00-ABRIR-ARQUIVOS.

    PERFORM          002-00-VER-ARQ-VAZIO.

    PERFORM          003-00-TRATAR-CADPECA UNTIL
                    FS-CADPECA EQUAL '10'.

    PERFORM          004-00-FECHAR-ARQUIVOS.

    STOP            RUN.

=====
001-00-ABRIR-ARQUIVOS SECTION.
=====

    MOVE    FS-ABERTURA          TO    FS-OPERACAO.

    OPEN    INPUT  CADPECA
            OUTPUT CADATU.

    PERFORM 001-01-TESTAR-FS.

001-00-FIM.          EXIT.

=====
001-01-TESTAR-FS    SECTION.
=====

    PERFORM 001-02-FS-CADPECA.

    PERFORM 001-03-FS-CADATU.

001-01-FIM.          EXIT.

=====
001-02-FS-CADPECA  SECTION.
=====

    MOVE    'CADPECA'            TO    FS-ARQUIVO.

    MOVE    FS-CADPECA           TO    FS-COD-STATUS.

    IF     FS-CADPECA            NOT EQUAL '00' AND '10'
        PERFORM 900-00-ERRO
    END-IF.

001-02-FIM.          EXIT.

=====
001-03-FS-CADATU   SECTION.
=====

    MOVE    'CADATU'             TO    FS-ARQUIVO.

    MOVE    FS-CADATU            TO    FS-COD-STATUS.

    IF     FS-CADATU            NOT EQUAL '00' AND '10'
        PERFORM 900-00-ERRO
    END-IF.

001-03-FIM.          EXIT.

=====
002-00-VER-ARQ-VAZIO SECTION.
=====

    PERFORM 002-01-LER-CADPECA.

```

```

IF FS-CADPECA EQUAL '10'
  DISPLAY '***** EXER001 *****'
  DISPLAY '*
  DISPLAY '* ARQUIVO CADPECA VAZIO *
  DISPLAY '*
  DISPLAY '* PROGRAMA CANCELADO *
  DISPLAY '*
  DISPLAY '* ***** EXER001 *****'
  PERFORM 004-00-FECHAR-ARQUIVOS
  STOP RUN
END-IF.

002-00-FIM. EXIT.

*====*
002-01-LER-CADPECA SECTION.
*====*

MOVE FS-LEITURA TO FS-OPERACAO.

READ CADPECA.

IF FS-CADPECA NOT EQUAL '10'
  PERFORM 001-02-FS-CADPECA
END-IF.

002-01-FIM. EXIT.

*====*
003-00-TRATAR-CADPECA SECTION.
*====*

WRITE REG-CADATU FROM REG-CADPECA.

MOVE FS-GRAVACAO TO FS-OPERACAO.

PERFORM 001-03-FS-CADATU.

PERFORM 002-01-LER-CADPECA.

003-00-FIM. EXIT.

*====*
004-00-FECHAR-ARQUIVOS SECTION.
*====*

MOVE FS-FECHAMENTO TO FS-OPERACAO.

CLOSE CADPECA
CADATU.

PERFORM 001-01-TESTAR-FS.

004-00-FIM. EXIT.

*====*
900-00-ERRO SECTION.
*====*
  DISPLAY '***** EXER001 *****'
  DISPLAY '*
  DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *
  DISPLAY '*
  DISPLAY '* FILE STATUS = ' FS-COD-STATUS
  DISPLAY '*
  DISPLAY '* PROGRAM A ENCERRADO'
  DISPLAY '*
  DISPLAY '* ***** EXER001 *****'
  STOP RUN.

900-00-FIM. EXIT.

```

2 Exercício 02 – EXER0002

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0002.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* GERAR ARQUIVO DE PECAS SELECIONADAS
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
SELECT CADPECA ASSIGN TO UT-S-CADPECA
FILE STATUS IS FS-CADPECA.
*
SELECT CADATU02 ASSIGN TO UT-S-CADATU02
FILE STATUS IS FS-CADATU02.
*
DATA DIVISION.
FILE SECTION.
*
FD CADPECA
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADPECA.
01 REG-CADPECA.
05 COD-PECA PIC 9(05).
05 NOME-PECA PIC X(30).
05 QTD-PECA PIC 9(05).
05 QTD-MINIMA PIC 9(05).
05 QTD-MAXIMA PIC 9(05).
05 FORNECEDOR PIC X(05).
05 PR-UNITARIO PIC 9(07)V99.
05 PERDA PIC 9(07)V99.
05 TIPO PIC X(01).
05 FILLER PIC X(06).
*
FD CADATU02
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADATU02.
01 REG-CADATU02.
05 COD-ATU PIC 9(05).
05 NOME-ATU PIC X(30).
05 QTD-ATU PIC 9(05).
05 PR-UNIT-ATU PIC 9(07)V99.
05 ASTER PIC X(03).
05 FILLER PIC X(08).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA DEFINIR FILE STATUS
*
77 FS-CADPECA PIC X(02) VALUE SPACES.
77 FS-CADATU02 PIC X(02) VALUE SPACES.
77 FS-COD-STATUS PIC X(02) VALUE SPACES.
77 FS-ARQUIVO PIC X(08) VALUE SPACES.
77 FS-OPERACAO PIC X(13) VALUE SPACES.
77 FS-ABERTURA PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO PIC X(13) VALUE 'NO FECHAMENTO'.
*
PROCEDURE DIVISION.
*=====*
000-00-INICIO SECTION.

```

```

=====
PERFORM      001-00-ABRIR-ARQUIVOS.

PERFORM      002-00-VER-ARQ-VAZIO.

PERFORM      003-00-TRATAR-CADPECA  UNTIL
FS-CADPECA  EQUAL  '10'.

PERFORM      004-00-FECHAR-ARQUIVOS.

STOP         RUN.

=====
001-00-ABRIR-ARQUIVOS          SECTION.
=====
MOVE         FS-ABERTURA          TO          FS-OPERACAO.

OPEN        INPUT  CADPECA
           OUTPUT CADATU02.

PERFORM      001-01-TESTAR-FS.

001-00-FIM.          EXIT.

=====
001-01-TESTAR-FS          SECTION.
=====
PERFORM      001-02-FS-CADPECA.

PERFORM      001-03-FS-CADATU02.

001-01-FIM.          EXIT.

=====
001-02-FS-CADPECA          SECTION.
=====
MOVE         'CADPECA'            TO          FS-ARQUIVO.

MOVE         FS-CADPECA           TO          FS-COD-STATUS.

IF  FS-CADPECA  NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-02-FIM.          EXIT.

=====
001-03-FS-CADATU02          SECTION.
=====
MOVE         'CADATU02'           TO          FS-ARQUIVO.

MOVE         FS-CADATU02          TO          FS-COD-STATUS.

IF  FS-CADATU02  NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-03-FIM.          EXIT.

=====
002-00-VER-ARQ-VAZIO          SECTION.
=====
PERFORM      002-01-LER-CADPECA.

IF  FS-CADPECA  EQUAL  '10'
   DISPLAY '***** EXER002 *****'
   DISPLAY '*
   DISPLAY '*          ARQUIVO CADPECA VAZIO          *

```

```

DISPLAY '*'
DISPLAY '*'          PROGRAMA CANCELADO          '*'
DISPLAY '*'
DISPLAY '***** EXER002 *****'
PERFORM 004-00-FECHAR-ARQUIVOS
STOP      RUN
END-IF.

002-00-FIM.          EXIT.

=====
002-01-LER-CADPECA          SECTION.
=====

MOVE      FS-LEITURA          TO      FS-OPERACAO.

READ      CADPECA.

IF      FS-CADPECA          NOT EQUAL      '10'
PERFORM 001-02-FS-CADPECA
END-IF.

002-01-FIM.          EXIT.

=====
003-00-TRATAR-CADPECA          SECTION.
=====

PERFORM      003-01-GRAVAR-CADATU.

PERFORM      002-01-LER-CADPECA.

003-00-FIM.          EXIT.

=====
003-01-GRAVAR-CADATU          SECTION.
=====

MOVE      FS-GRAVACAO          TO      FS-OPERACAO.

MOVE      COD-PECA          TO      COD-ATU.

MOVE      NOME-PECA          TO      NOME-ATU.

MOVE      QTD-PECA          TO      QTD-ATU.

MOVE      PR-UNITARIO          TO      PR-UNIT-ATU.

MOVE      '***'          TO      ASTER.

WRITE      REG-CADATU02.

PERFORM      001-03-FS-CADATU02.

003-01-FIM.          EXIT.

=====
004-00-FECHAR-ARQUIVOS          SECTION.
=====

MOVE      FS-FECHAMENTO          TO      FS-OPERACAO.

CLOSE      CADPECA
CADATU02.

PERFORM      001-01-TESTAR-FS.

004-00-FIM.          EXIT.

=====
900-00-ERRO          SECTION.
=====
DISPLAY '***** EXER002 *****'
DISPLAY '*'

```



```
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'  
DISPLAY '* *'  
DISPLAY '* FILE STATUS = ' FS-COD-STATUS  
' *'  
DISPLAY '* *'  
DISPLAY '* PROGRAMA ENCERRADO'  
' *'  
DISPLAY '* *'  
DISPLAY '***** EXER002 *****'  
STOP RUN.
```

900-00-FIM. EXIT.

3 Exercício 03 – EXER0003

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0003.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* GERAR ARQUIVO DE PECAS SELECIONADAS
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
SELECT CADPECA ASSIGN TO UT-S-CADPECA
FILE STATUS IS FS-CADPECA.
*
SELECT CADSEL ASSIGN TO UT-S-CADSEL
FILE STATUS IS FS-CADSEL.
*
DATA DIVISION.
FILE SECTION.
*
FD CADPECA
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADPECA.
01 REG-CADPECA.
05 COD-PECA PIC 9(05).
05 NOME-PECA PIC X(30).
05 QTD-PECA PIC 9(05).
05 QTD-MINIMA PIC 9(05).
05 QTD-MAXIMA PIC 9(05).
05 FORNECEDOR PIC X(05).
05 PR-UNITARIO PIC 9(07)V99.
05 PERDA PIC 9(07)V99.
05 TIPO PIC X(01).
05 FILLER PIC X(06).
*
FD CADSEL
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADSEL.
01 REG-CADSEL.
05 COD-SEL PIC 9(05).
05 NOME-SEL PIC X(30).
05 QTD-SEL PIC 9(05).
05 PUNIT-SEL PIC 9(07)V99.
05 FILLER PIC X(01).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA DEFINIR FILE STATUS
*
77 FS-CADPECA PIC X(02) VALUE SPACES.
77 FS-CADSEL PIC X(02) VALUE SPACES.
77 FS-COD-STATUS PIC X(02) VALUE SPACES.
77 FS-ARQUIVO PIC X(08) VALUE SPACES.
77 FS-OPERACAO PIC X(13) VALUE SPACES.
77 FS-ABERTURA PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO PIC X(13) VALUE 'NO FECHAMENTO'.
*
PROCEDURE DIVISION.
*
*****
000-00-INICIO SECTION.
*****

```

```

PERFORM      001-00-ABRIR-ARQUIVOS.

PERFORM      002-00-VER-ARQ-VAZIO.

PERFORM      003-00-TRATAR-CADPECA  UNTIL
FS-CADPECA  EQUAL  '10'.

PERFORM      004-00-FECHAR-ARQUIVOS.

STOP         RUN.

```

```

=====
001-00-ABRIR-ARQUIVOS          SECTION.
=====

```

```

MOVE  FS-ABERTURA          TO  FS-OPERACAO.

OPEN  INPUT  CADPECA
      OUTPUT  CADSEL.

PERFORM      001-01-TESTAR-FS.

001-00-FIM.          EXIT.

```

```

=====
001-01-TESTAR-FS              SECTION.
=====

```

```

PERFORM      001-02-FS-CADPECA.

PERFORM      001-03-FS-CADSEL.

001-01-FIM.          EXIT.

```

```

=====
001-02-FS-CADPECA            SECTION.
=====

```

```

MOVE  'CADPECA'            TO  FS-ARQUIVO.

MOVE  FS-CADPECA           TO  FS-COD-STATUS.

IF  FS-CADPECA  NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-02-FIM.          EXIT.

```

```

=====
001-03-FS-CADSEL              SECTION.
=====

```

```

=====

```

```

MOVE  'CADSEL'            TO  FS-ARQUIVO.

MOVE  FS-CADSEL           TO  FS-COD-STATUS.

IF  FS-CADSEL  NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-03-FIM.          EXIT.

```

```

=====
002-00-VER-ARQ-VAZIO          SECTION.
=====

```

```

PERFORM      002-01-LER-CADPECA.

IF  FS-CADPECA  EQUAL  '10'
   DISPLAY '***** EXER0003 *****'
   DISPLAY '*
   DISPLAY '*          ARQUIVO CADPECA VAZIO          *

```

```

DISPLAY '*'
DISPLAY '*'          PROGRAMA CANCELADO          '*'
DISPLAY '*'
DISPLAY '***** EXER003 *****'
PERFORM 004-00-FECHAR-ARQUIVOS
STOP      RUN
END-IF.

002-00-FIM.          EXIT.

=====
002-01-LER-CADPECA          SECTION.
=====

MOVE      FS-LEITURA          TO          FS-OPERACAO.

READ      CADPECA.

IF      FS-CADPECA          NOT EQUAL '10'
PERFORM 001-02-FS-CADPECA
END-IF.

002-01-FIM.          EXIT.

=====
003-00-TRATAR-CADPECA          SECTION.
=====

PERFORM      003-02-GRAVAR-CADSEL.

PERFORM      002-01-LER-CADPECA.

003-00-FIM.          EXIT.

=====
003-02-GRAVAR-CADSEL          SECTION.
=====

MOVE      FS-GRAVACAO          TO          FS-OPERACAO.

IF      (COD-PECA          NOT GREATER 10000) OR
(COD-PECA          NOT LESS 20000)
MOVE      COD-PECA          TO          COD-SEL
MOVE      NOME-PECA          TO          NOME-SEL
MOVE      QTD-PECA          TO          QTD-SEL
MOVE      PR-UNITARIO          TO          PUNIT-SEL
WRITE      REG-CADSEL
PERFORM 001-03-FS-CADSEL
END-IF.

003-02-FIM.          EXIT.

=====
004-00-FECHAR-ARQUIVOS          SECTION.
=====

MOVE      FS-FECHAMENTO          TO          FS-OPERACAO.

CLOSE      CADPECA
CADSEL.

PERFORM      001-01-TESTAR-FS.

004-00-FIM.          EXIT.

=====
900-00-ERRO          SECTION.
=====
DISPLAY '***** EXER003 *****'
DISPLAY '*'
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY '*'
DISPLAY '* FILE STATUS = ' FS-COD-STATUS

```

```
          '          * '
DISPLAY '*
DISPLAY '* PROGRAMA ENCERRADO'
          * '
DISPLAY '*
DISPLAY '***** EXER003 *****'
STOP    RUN.

900-00-FIM.          EXIT.
```

4 Exercício 04 – EXER0004

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0004.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* GERAR ARQUIVO DE PECAS SELECIONADAS
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
        DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
        SELECT CADPECA ASSIGN TO UT-S-CADPECA
        FILE STATUS IS FS-CADPECA.
*
        SELECT CADSEL ASSIGN TO UT-S-CADSEL
        FILE STATUS IS FS-CADSEL.
*
DATA DIVISION.
FILE SECTION.
*
FD CADPECA
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADPECA.
01 REG-CADPECA.
05 COD-PECA PIC 9(05).
05 NOME-PECA PIC X(30).
05 QTD-PECA PIC 9(05).
05 QTD-MINIMA PIC 9(05).
05 QTD-MAXIMA PIC 9(05).
05 FORNECEDOR PIC X(05).
05 PR-UNITARIO PIC 9(07)V99.
05 PERDA PIC 9(07)V99.
05 TIPO PIC X(01).
05 FILLER PIC X(06).
*
FD CADSEL
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADSEL.
01 REG-CADSEL.
05 COD-SEL PIC 9(05).
05 NOME-SEL PIC X(30).
05 QTD-SEL PIC 9(05).
05 PUNIT-SEL PIC 9(07)V99.
05 FILLER PIC X(01).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA DEFINIR FILE STATUS
*
77 FS-CADPECA PIC X(02) VALUE SPACES.
77 FS-CADSEL PIC X(02) VALUE SPACES.
77 FS-COD-STATUS PIC X(02) VALUE SPACES.
77 FS-ARQUIVO PIC X(08) VALUE SPACES.
77 FS-OPERACAO PIC X(13) VALUE SPACES.
77 FS-ABERTURA PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO PIC X(13) VALUE 'NO FECHAMENTO'.
*
PROCEDURE DIVISION.
*
=====
000-00-INICIO SECTION.
=====

```

```

PERFORM      001-00-ABRIR-ARQUIVOS.

PERFORM      002-00-VER-ARQ-VAZIO.

PERFORM      003-00-TRATAR-CADPECA  UNTIL
FS-CADPECA  EQUAL  '10'.

PERFORM      004-00-FECHAR-ARQUIVOS.

STOP         RUN.

```

```

=====
001-00-ABRIR-ARQUIVOS          SECTION.
=====

```

```

MOVE  FS-ABERTURA          TO  FS-OPERACAO.

OPEN  INPUT  CADPECA
      OUTPUT CADSEL.

PERFORM      001-01-TESTAR-FS.

001-00-FIM.          EXIT.

```

```

=====
001-01-TESTAR-FS              SECTION.
=====

```

```

PERFORM      001-02-FS-CADPECA.

PERFORM      001-03-FS-CADSEL.

001-01-FIM.          EXIT.

```

```

=====
001-02-FS-CADPECA            SECTION.
=====

```

```

MOVE  'CADPECA'            TO  FS-ARQUIVO.

MOVE  FS-CADPECA           TO  FS-COD-STATUS.

IF  FS-CADPECA  NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-02-FIM.          EXIT.

```

```

=====
001-03-FS-CADSEL              SECTION.
=====

```

```

MOVE  'CADSEL'            TO  FS-ARQUIVO.

MOVE  FS-CADSEL           TO  FS-COD-STATUS.

IF  FS-CADSEL  NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-03-FIM.          EXIT.

```

```

=====
002-00-VER-ARQ-VAZIO          SECTION.
=====

```

```

PERFORM      002-01-LER-CADPECA.

IF  FS-CADPECA  EQUAL  '10'
   DISPLAY '***** EXER0004 *****'
   DISPLAY '* * * * *'

```

```

DISPLAY '*                ARQUIVO CADPECA VAZIO                *'
DISPLAY '*                *'
DISPLAY '*                PROGRAMA CANCELADO                    *'
DISPLAY '*                *'
DISPLAY '***** EXER004 *****'
PERFORM 004-00-FECHAR-ARQUIVOS
STOP    RUN
END-IF.

002-00-FIM.                EXIT.

*=====*
002-01-LER-CADPECA        SECTION.
*=====*

MOVE    FS-LEITURA        TO    FS-OPERACAO.

READ    CADPECA.

IF    FS-CADPECA    NOT EQUAL    '10'
    PERFORM 001-02-FS-CADPECA
END-IF.

002-01-FIM.                EXIT.

*=====*
003-00-TRATAR-CADPECA    SECTION.
*=====*

PERFORM    003-02-GRAVAR-CADSEL.

PERFORM    002-01-LER-CADPECA.

003-00-FIM.                EXIT.

*=====*
003-01-GRAVAR-CADSEL    SECTION.
*=====*

MOVE    FS-GRAVACAO        TO    FS-OPERACAO.

IF    (COD-PECA    NOT GREATER 10000) AND
    (QTD-PECA    GREATER    ZEROS)
    MOVE    COD-PECA        TO    COD-SEL
    MOVE    NOME-PECA       TO    NOME-SEL
    MOVE    QTD-PECA       TO    QTD-SEL
    MOVE    PR-UNITARIO    TO    PUNIT-SEL
    WRITE  REG-CADSEL
    PERFORM 001-03-FS-CADSEL
END-IF.

003-01-FIM.                EXIT.

*=====*
004-00-FECHAR-ARQUIVOS    SECTION.
*=====*

MOVE    FS-FECHAMENTO    TO    FS-OPERACAO.

CLOSE  CADPECA
        CADSEL.

PERFORM    001-01-TESTAR-FS.

004-00-FIM.                EXIT.

*=====*
900-00-ERRO                SECTION.
*=====*
DISPLAY '***** EXER004 *****'
DISPLAY '*                *'
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY '*                *'

```



```
DISPLAY '* FILE STATUS = ' FS-COD-STATUS
      |
      | *'
DISPLAY '*
DISPLAY '* PROGRAMA ENCERRADO'
      |
      | *'
DISPLAY '*
DISPLAY '*
DISPLAY '***** EXER004 *****'
STOP    RUN.

900-00-FIM.          EXIT.
```

5 Exercício 05 – EXER0005

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0005.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* EMITIR RELATORIO DO CADASTRO DE ALUNOS
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
        DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
        SELECT CADALUNO ASSIGN TO UT-S-CADALUNO
        FILE STATUS IS FS-CADALUNO.
*
        SELECT RELATO ASSIGN TO UR-S-RELATO
        FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CADALUNO
RECORD CONTAINS 60 CHARACTERS

        RECORDING MODE IS F
        LABEL RECORD IS STANDARD
        DATA RECORD IS REG-CADALUNO.
01 REG-CADALUNO.
        05 CODALU PIC 9(04).
        05 NOMEALU PIC X(30).
        05 TURMAALU PIC 9(03).
        05 NOTA1ALU PIC 9(02)V99.
        05 NOTA2ALU PIC 9(02)V99.
        05 NOTA3ALU PIC 9(02)V99.
        05 NOTA4ALU PIC 9(02)V99.
        05 FILLER PIC X(07).
*
FD RELATO
RECORD CONTAINS 77 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS OMITTED
DATA RECORD IS REG-RELATO.
01 REG-RELATO.
        05 FILLER PIC X(77).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.
        05 WS-DATA-SYS.
                10 WS-ANO-SYS PIC 9(04) VALUE ZEROS.
                10 WS-MES-SYS PIC 9(02) VALUE ZEROS.
                10 WS-DIA-SYS PIC 9(02) VALUE ZEROS.
        05 WS-HORARIO-SYS.
                10 WS-HORA-SYS PIC 9(02) VALUE ZEROS.
                10 WS-MINUTO-SYS PIC 9(02) VALUE ZEROS.
        05 FILLER PIC X(09) VALUE SPACES.
*
* AREA PARA DEFINIR ACUMULADORES
*
77 ACUM-LINHAS PIC 9(02) VALUE 99.
77 ACUM-PAG PIC 9(05) VALUE ZEROS.
*
* AREA PARA DEFINIR FILE STATUS
*
77 FS-CADALUNO PIC X(02) VALUE SPACES.
77 FS-RELATO PIC X(02) VALUE SPACES.

```

```

77 FS-COD-STATUS          PIC X(02) VALUE SPACES.
77 FS-ARQUIVO             PIC X(08) VALUE SPACES.
77 FS-OPERACAO           PIC X(13) VALUE SPACES.
77 FS-ABERTURA          PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA           PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO           PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO         PIC X(13) VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01 CAB001.
05 FILLER                 PIC X(66) VALUE
   'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
05 FILLER                 PIC X(06) VALUE 'PAG.: '.
05 CAB001-PAG             PIC Z.ZZ9.
*
01 CAB002.
05 FILLER                 PIC X(51) VALUE
   'PROGRAMA = EXER0005'.
05 CAB002-HORA           PIC 99.
05 FILLER                 PIC X(01) VALUE ':'.
05 CAB002-MINUTO         PIC 99.
05 FILLER                 PIC X(11) VALUE SPACES.
05 CAB002-DIA            PIC 99/.
05 CAB002-MES            PIC 99/.
05 CAB002-ANO            PIC 9999.
*
01 CAB003.
05 FILLER                 PIC X(23) VALUE SPACES.
05 FILLER                 PIC X(54) VALUE
   'RELATORIO DO CADASTRO DE ALUNOS'.
*
01 CAB004.
05 FILLER                 PIC X(14) VALUE 'CODIGO'.
05 FILLER                 PIC X(26) VALUE
   'NOME DO ALUNO'.
05 FILLER                 PIC X(09) VALUE 'TURMA'.
05 FILLER                 PIC X(08) VALUE 'NOTA'.
05 FILLER                 PIC X(08) VALUE 'NOTA'.
05 FILLER                 PIC X(08) VALUE 'NOTA'.
05 FILLER                 PIC X(04) VALUE 'NOTA'.
*
01 CAB005.
05 FILLER                 PIC X(48) VALUE SPACES.
05 FILLER                 PIC X(08) VALUE '1.BIM'.
05 FILLER                 PIC X(08) VALUE '2.BIM'.
05 FILLER                 PIC X(08) VALUE '3.BIM'.
05 FILLER                 PIC X(05) VALUE '4.BIM'.
*
01 DET001.
05 FILLER                 PIC X(01) VALUE ' '.
05 DET001-CODIGO         PIC 9(04).
05 FILLER                 PIC X(03) VALUE SPACES.
05 DET001-NOME           PIC X(30).
05 FILLER                 PIC X(03) VALUE SPACES.
05 DET001-TURMA         PIC 9(03).
05 FILLER                 PIC X(04) VALUE SPACES.
05 DET001-1BIM           PIC Z9,99.
05 FILLER                 PIC X(03) VALUE SPACES.
05 DET001-2BIM           PIC Z9,99.
05 FILLER                 PIC X(03) VALUE SPACES.
05 DET001-3BIM           PIC Z9,99.
05 FILLER                 PIC X(03) VALUE SPACES.
05 DET001-4BIM           PIC Z9,99.
*
PROCEDURE                DIVISION.

=====
000-00-INICIO                SECTION.
=====

```

PERFORM 001-00-ABRIR-ARQUIVOS.

PERFORM 002-00-OBTER-DATA-HORA.

```

PERFORM      003-00-VER-ARQ-VAZIO.

PERFORM      004-00-TRATAR-CADALUNO UNTIL
              FS-CADALUNO EQUAL '10'.

PERFORM      005-00-FECHAR-ARQUIVOS.

STOP        RUN.

```

```

===== *
001-00-ABRIR-ARQUIVOS          SECTION.
===== *

```

```

MOVE        FS-ABERTURA          TO          FS-OPERACAO.

OPEN        INPUT  CADALUNO
            OUTPUT RELATO.

```

```

PERFORM      001-01-TESTAR-FS.

```

```

001-00-FIM.                                EXIT.

```

```

===== *
001-01-TESTAR-FS              SECTION.
===== *

```

```

PERFORM      001-02-FS-CADALUNO.

```

```

PERFORM      001-03-FS-RELATO.

```

```

001-01-FIM.                                EXIT.

```

```

===== *
001-02-FS-CADALUNO          SECTION.
===== *

```

```

MOVE        'CADALUNO'           TO          FS-ARQUIVO.

MOVE        FS-CADALUNO          TO          FS-COD-STATUS.

IF  FS-CADALUNO  NOT EQUAL  '00' AND '10'
    PERFORM 900-00-ERRO
END-IF.

```

```

001-02-FIM.                                EXIT.

```

```

===== *
001-03-FS-RELATO            SECTION.
===== *

```

```

MOVE        'RELATO'             TO          FS-ARQUIVO.

MOVE        FS-RELATO            TO          FS-COD-STATUS.

IF  FS-RELATO  NOT EQUAL  '00' AND '10'
    PERFORM 900-00-ERRO
END-IF.

```

```

001-03-FIM.                                EXIT.

```

```

===== *
002-00-OBTER-DATA-HORA      SECTION.
===== *

```

```

MOVE        FUNCTION CURRENT-DATE TO          WS-DATA-HORARIO-SYS.

MOVE        WS-HORA-SYS          TO          CAB002-HORA.

MOVE        WS-MINUTO-SYS        TO          CAB002-MINUTO.

MOVE        WS-DIA-SYS           TO          CAB002-DIA.

MOVE        WS-MES-SYS           TO          CAB002-MES.

```

```

MOVE      WS-ANO-SYS                TO      CAB002-ANO.

002-00-FIM.                            EXIT.

*=====*
003-00-VER-ARQ-VAZIO                    SECTION.
*=====*

PERFORM   003-01-LER-CADALUNO.

IF  FS-CADALUNO    EQUAL    '10'
   DISPLAY '***** EXER005 *****'
   DISPLAY '*
   DISPLAY '*          ARQUIVO CADALUNO VAZIO          *
   DISPLAY '*
   DISPLAY '*          PROGRAMA CANCELADO              *
   DISPLAY '*
   DISPLAY '***** EXER005 *****'
   PERFORM 005-00-FECHAR-ARQUIVOS
   STOP   RUN
END-IF.

003-00-FIM.                            EXIT.

*=====*
003-01-LER-CADALUNO                    SECTION.
*=====*

MOVE      FS-LEITURA                TO      FS-OPERACAO.

READ      CADALUNO.

IF  FS-CADALUNO    NOT EQUAL    '10'
   PERFORM 001-02-FS-CADALUNO
END-IF.

003-01-FIM.                            EXIT.

*=====*
004-00-TRATAR-CADALUNO                SECTION.
*=====*

PERFORM   004-01-IMPRESSAO.

PERFORM   003-01-LER-CADALUNO.

004-00-FIM.                            EXIT.

*=====*
004-01-IMPRESSAO                      SECTION.
*=====*

MOVE      FS-GRAVACAO                TO      FS-OPERACAO.

IF  ACUM-LINHAS    GREATER    59
   PERFORM 004-02-CABECALHOS
END-IF.

MOVE      CODALU                TO      DET001-CODIGO.

MOVE      NOMEALU                TO      DET001-NOME.

MOVE      TURMAALU                TO      DET001-TURMA.

MOVE      NOTA1ALU                TO      DET001-1BIM.

MOVE      NOTA2ALU                TO      DET001-2BIM.

MOVE      NOTA3ALU                TO      DET001-3BIM.

MOVE      NOTA4ALU                TO      DET001-4BIM.

WRITE    REG-RELATO                FROM    DET001 AFTER 1.

```

```

PERFORM      001-03-FS-RELATO.

ADD          1                TO      ACUM-LINHAS.

004-01-FIM.                EXIT.

*=====*
004-02-CABECALHOS          SECTION.
*=====*

ADD          1                TO      ACUM-PAG.

MOVE        ACUM-PAG          TO      CAB001-PAG.

WRITE       REG-RELATO        FROM    CAB001  AFTER  PAGE.

PERFORM      001-03-FS-RELATO.

WRITE       REG-RELATO        FROM    CAB002  AFTER  1.

PERFORM      001-03-FS-RELATO.

WRITE       REG-RELATO        FROM    CAB003  AFTER  2.

PERFORM      001-03-FS-RELATO.

WRITE       REG-RELATO        FROM    CAB004  AFTER  2.

PERFORM      001-03-FS-RELATO.

WRITE       REG-RELATO        FROM    CAB005  AFTER  1.

PERFORM      001-03-FS-RELATO.

MOVE        SPACES            TO      REG-RELATO.

WRITE       REG-RELATO        AFTER   1.

PERFORM      001-03-FS-RELATO.

MOVE        08                TO      ACUM-LINHAS.

004-02-FIM.                EXIT.

*=====*
005-00-FECHAR-ARQUIVOS     SECTION.
*=====*

MOVE        FS-FECHAMENTO     TO      FS-OPERACAO.

CLOSE       CADALUNO
           RELATO.

PERFORM      001-01-TESTAR-FS.

005-00-FIM.                EXIT.

*=====*
900-00-ERRO                 SECTION.
*=====*

DISPLAY     '***** EXER0005 *****'
DISPLAY     '*                               *'
DISPLAY     '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY     '*                               *'
DISPLAY     '* FILE STATUS = ' FS-COD-STATUS
           '                               *'
DISPLAY     '*                               *'
DISPLAY     '* PROGRAMA ENCERRADO'
           '                               *'
DISPLAY     '*                               *'
DISPLAY     '***** EXER0005 *****'
STOP        RUN.

```

900-00-FIM.

EXIT.

6 Exercício 06 – EXER0006

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0006.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* EMITIR RELATORIO ANALITICO DO CADASTRO DE PECAS
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
        DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
        SELECT CADPECA ASSIGN TO UT-S-CADPECA
        FILE STATUS IS FS-CADPECA.
*
        SELECT RELATO ASSIGN TO UR-S-RELATO
        FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CADPECA
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADPECA.

01 REG-CADPECA.
05 COD-PECA PIC 9(05).
05 NOME-PECA PIC X(30).
05 QTD-ESTOQUE PIC 9(05).
05 QTD-MINIMA PIC 9(05).
05 QTD-MAXIMA PIC 9(05).
05 FORNECEDOR PIC 9(05).
05 VLR-UNIT PIC 9(07)V99.
05 PERDA PIC 9(07)V99.
05 TIPO PIC X(01).
05 FILLER PIC X(26).
*
FD RELATO
RECORD CONTAINS 104 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS OMITTED
DATA RECORD IS REG-RELATO.
01 REG-RELATO.
05 FILLER PIC X(104).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.
05 WS-DATA-SYS.
10 WS-ANO-SYS PIC 9(04) VALUE ZEROS.
10 WS-MES-SYS PIC 9(02) VALUE ZEROS.
10 WS-DIA-SYS PIC 9(02) VALUE ZEROS.
05 WS-HORARIO-SYS.
10 WS-HORA-SYS PIC 9(02) VALUE ZEROS.
10 WS-MINUTO-SYS PIC 9(02) VALUE ZEROS.
05 FILLER PIC X(09) VALUE SPACES.
*
* AREAS PARA CALCULOS
*
01 WS-VL-TOTAL PIC 9(09)V99 VALUE ZEROS.
*
* AREA PARA DEFINIR ACUMULADORES
*
77 ACUM-LIDOS PIC 9(06) VALUE ZEROS.

```



```

77 ACUM-LINHAS          PIC 9(02) VALUE 61.
77 ACUM-PAG            PIC 9(04) VALUE ZEROS.
*
* AREA PARA DEFINIR FILE STATUS
*
77 FS-CADPECA          PIC X(02) VALUE SPACES.
77 FS-RELATO           PIC X(02) VALUE SPACES.
77 FS-COD-STATUS       PIC X(02) VALUE SPACES.
77 FS-ARQUIVO          PIC X(08) VALUE SPACES.
77 FS-OPERACAO         PIC X(13) VALUE SPACES.
77 FS-ABERTURA        PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA         PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO         PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO       PIC X(13) VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01 CAB001.
05 FILLER              PIC X(93) VALUE
   'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
05 FILLER              PIC X(06) VALUE 'PAG.:'.
05 CAB001-PAG          PIC Z.ZZ9.
*
01 CAB002.
05 FILLER              PIC X(82) VALUE
   'PROGRAMA = EXER0006'.
05 CAB002-HORA         PIC 99.
05 FILLER              PIC X(01) VALUE ':'.
05 CAB002-MINUTO       PIC 99.
05 FILLER              PIC X(07) VALUE SPACES.
05 CAB002-DIA          PIC 99/.
05 CAB002-MES          PIC 99/.
05 CAB002-ANO          PIC 9999.
*
01 CAB003.
05 FILLER              PIC X(32) VALUE SPACES.
05 FILLER              PIC X(72) VALUE
   'RELATORIO ANALITICO DO CADASTRO DE PECAS'.
*
01 CAB004.
05 FILLER              PIC X(62) VALUE SPACES.
05 FILLER              PIC X(30) VALUE 'VALOR'.
05 FILLER              PIC X(12) VALUE 'PERDA'.
*
01 CAB005.
05 FILLER              PIC X(14) VALUE 'CODIGO'.
05 FILLER              PIC X(27) VALUE
   'NOME DA PECA'.
05 FILLER              PIC X(31) VALUE
   'QTDE FORN.          UNITARIO'.
05 FILLER              PIC X(32) VALUE
   'VALOR TOTAL        PREVISTA TIPO'.
*
01 DET001.
05 DET001-CODIGO       PIC 99.999.
05 FILLER              PIC X(02) VALUE SPACES.
05 DET001-NOME         PIC X(30).
05 FILLER              PIC X(02) VALUE SPACES.
05 DET001-QTDE         PIC ZZ.ZZ9.
05 FILLER              PIC X(02) VALUE SPACES.
05 DET001-FORN         PIC 9(05).
05 FILLER              PIC X(02) VALUE SPACES.
05 DET001-VLR-UNIT     PIC Z.ZZZ.ZZ9,99.
05 FILLER              PIC X(02) VALUE SPACES.
05 DET001-VLR-TOTAL    PIC ZZZ.ZZZ.ZZ9,99.
05 FILLER              PIC X(02) VALUE SPACES.
05 DET001-PERDA        PIC Z.ZZZ.ZZ9,99.
05 FILLER              PIC X(04) VALUE SPACES.
05 DET001-TIPO         PIC X(01).
05 FILLER              PIC X(02) VALUE SPACES.
*
01 TOT001.
05 FILLER              PIC X(27) VALUE
   'TOTAL DE REGISTROS LIDOS = '.

```

```

05 TOT001-LIDOS          PIC ZZZ.ZZ9.
05 FILLER                PIC X(70) VALUE SPACES.

*
PROCEDURE                DIVISION.
*=====*
000-00-ROTINA-PRINCIPAL SECTION.
*=====*

    PERFORM      001-00-ABRIR-ARQUIVOS.

    PERFORM      002-00-OBTER-DATA-HORA.

    PERFORM      003-00-VER-ARQ-VAZIO.

    PERFORM      004-00-TRATAR-CADPECA UNTIL
                  FS-CADPECA EQUAL '10'.

    PERFORM      005-00-IMPRIMIR-TOTAIS.

    PERFORM      006-00-FECHAR-ARQUIVOS.

    STOP        RUN.

000-00-FIM-DA-ROTINA-PRINCIPAL.    EXIT.

*=====*
001-00-ABRIR-ARQUIVOS              SECTION.
*=====*

    MOVE      FS-ABERTURA          TO      FS-OPERACAO.

    OPEN      INPUT  CADPECA
              OUTPUT RELATO.

    PERFORM      001-01-TESTAR-FS.

001-00-FIM.                          EXIT.

*=====*
001-01-TESTAR-FS                  SECTION.
*=====*

    PERFORM      001-02-FS-CADPECA.

    PERFORM      001-03-FS-RELATO.

001-01-FIM.                          EXIT.

*=====*
001-02-FS-CADPECA                SECTION.
*=====*

    MOVE      'CADPECA'            TO      FS-ARQUIVO.

    MOVE      FS-CADPECA           TO      FS-COD-STATUS.

    IF      FS-CADPECA      NOT EQUAL '00' AND '10'
              PERFORM 900-00-ERRO
    END-IF.

001-02-FIM.                          EXIT.

*=====*
001-03-FS-RELATO                  SECTION.
*=====*

    MOVE      'RELATO'            TO      FS-ARQUIVO.

    MOVE      FS-RELATO           TO      FS-COD-STATUS.

    IF      FS-RELATO      NOT EQUAL '00' AND '10'
              PERFORM 900-00-ERRO
    END-IF.

```

```

001-03-FIM.                                EXIT.

=====
002-00-OBTER-DATA-HORA                     SECTION.
=====

MOVE    FUNCTION CURRENT-DATE              TO    WS-DATA-HORARIO-SYS.
MOVE    WS-HORA-SYS                        TO    CAB002-HORA.
MOVE    WS-MINUTO-SYS                     TO    CAB002-MINUTO.
MOVE    WS-DIA-SYS                        TO    CAB002-DIA.
MOVE    WS-MES-SYS                        TO    CAB002-MES.
MOVE    WS-ANO-SYS                        TO    CAB002-ANO.

002-00-FIM.                                EXIT.

=====
003-00-VER-ARQ-VAZIO                       SECTION.
=====

PERFORM 003-01-LER-CADPECA.

IF  FS-CADPECA    EQUAL    '10'
  DISPLAY '***** EXER0006 *****'
  DISPLAY '*
  DISPLAY '*          ARQUIVO CADPECA VAZIO          *
  DISPLAY '*
  DISPLAY '*          PROGRAMA CANCELADO            *
  DISPLAY '*
  DISPLAY '***** EXER0006 *****'
  PERFORM 006-00-FECHAR-ARQUIVOS
  STOP    RUN
END-IF.

003-00-FIM.                                EXIT.

=====
003-01-LER-CADPECA                         SECTION.
=====

MOVE    FS-LEITURA                        TO    FS-OPERACAO.

READ    CADPECA.

IF  FS-CADPECA    NOT EQUAL    '10'
  PERFORM 001-02-FS-CADPECA
  ADD 1
  TO    ACUM-LIDOS
END-IF.

003-01-FIM.                                EXIT.

=====
004-00-TRATAR-CADPECA                     SECTION.
=====

PERFORM    004-01-IMPRESSAO.

PERFORM    003-01-LER-CADPECA.

004-00-FIM.                                EXIT.

=====
004-01-IMPRESSAO                          SECTION.
=====

MOVE    FS-GRAVACAO                        TO    FS-OPERACAO.

IF  ACUM-LINHAS    GREATER    59
  PERFORM 004-02-CABECALHOS
END-IF.

```

```

COMPUTE WS-VL-TOTAL = QTD-ESTOQUE * VLR-UNIT.

MOVE    COD-PECA           TO      DET001-CODIGO.
MOVE    NOME-PECA          TO      DET001-NOME.
MOVE    QTD-ESTOQUE        TO      DET001-QTDE.
MOVE    FORNECEDOR         TO      DET001-FORN.
MOVE    VLR-UNIT           TO      DET001-VLR-UNIT.
MOVE    WS-VL-TOTAL        TO      DET001-VLR-TOTAL.
MOVE    PERDA              TO      DET001-PERDA.
MOVE    TIPO               TO      DET001-TIPO.
WRITE   REG-RELATO         FROM    DET001 AFTER 1.

PERFORM 001-03-FS-RELATO.

ADD     1                  TO      ACUM-LINHAS.

004-01-FIM.                EXIT.

*=====*
004-02-CABECALHOS         SECTION.
*=====*

ADD     1                  TO      ACUM-PAG.
MOVE    ACUM-PAG           TO      CAB001-PAG.
WRITE   REG-RELATO         FROM    CAB001 AFTER PAGE.

PERFORM 001-03-FS-RELATO.

WRITE   REG-RELATO         FROM    CAB002 AFTER 1.

PERFORM 001-03-FS-RELATO.

WRITE   REG-RELATO         FROM    CAB003 AFTER 2.

PERFORM 001-03-FS-RELATO.

WRITE   REG-RELATO         FROM    CAB004 AFTER 2.

PERFORM 001-03-FS-RELATO.

WRITE   REG-RELATO         FROM    CAB005 AFTER 1.

PERFORM 001-03-FS-RELATO.

MOVE    SPACES             TO      REG-RELATO.
WRITE   REG-RELATO         AFTER 1.

PERFORM 001-03-FS-RELATO.

MOVE    8                  TO      ACUM-LINHAS.

004-02-FIM.                EXIT.

*=====*
005-00-IMPRIMIR-TOTAIS    SECTION.
*=====*

MOVE    FS-GRAVACAO        TO      FS-OPERACAO.

IF ACUM-LINHAS GREATER 58
PERFORM 004-02-CABECALHOS
END-IF.

```

```

MOVE      ACUM-LIDOS           TO      TOT001-LIDOS.

WRITE     REG-RELATO           FROM     TOT001  AFTER  2.

PERFORM   001-03-FS-RELATO.

005-00-FIM.                     EXIT.

*=====*
006-00-FECHAR-ARQUIVOS         SECTION.
*=====*

MOVE      FS-FECHAMENTO        TO      FS-OPERACAO.

CLOSE     CADPECA
          RELATO.

PERFORM   001-01-TESTAR-FS.

006-00-FIM.                     EXIT.

*=====*
900-00-ERRO                     SECTION.
*=====*

DISPLAY  '***** EXER006 *****'
DISPLAY  '*                               *'
DISPLAY  '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY  '*                               *'
DISPLAY  '* FILE STATUS = ' FS-COD-STATUS
          '*                               *'
DISPLAY  '*                               *'
DISPLAY  '* PROGRAMA ENCERRADO'
          '*                               *'
DISPLAY  '*                               *'
DISPLAY  '***** EXER006 *****'
STOP     RUN.

900-00-FIM.                     EXIT.

```

7 Exercício 07 – EXER0007

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0007.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* EMITE RELACAO DE ALUNOS APROVADOS
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.

SPECIAL-NAMES.
    DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
    SELECT CADALUNO ASSIGN TO UT-S-CADALUNO
           FILE STATUS IS FS-CADALUNO.
*
    SELECT RELATO ASSIGN TO UR-S-RELATO
           FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CADALUNO
RECORD CONTAINS 60 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADALUNO.
01 REG-CADALUNO.
05 CODALU PIC 9(04).
05 NOMEALU PIC X(30).
05 TURMAALU PIC 9(03).
05 NOTA1ALU PIC 9(02)V99.
05 NOTA2ALU PIC 9(02)V99.
05 NOTA3ALU PIC 9(02)V99.
05 NOTA4ALU PIC 9(02)V99.
05 FILLER PIC X(07).
*
FD RELATO
RECORD CONTAINS 60 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS OMITTED
DATA RECORD IS REG-RELATO.
01 REG-RELATO.
01 REG-RELATO PIC X(60).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.
05 WS-DATA-SYS.
10 WS-ANO-SYS PIC 9(04) VALUE ZEROS.
10 WS-MES-SYS PIC 9(02) VALUE ZEROS.
10 WS-DIA-SYS PIC 9(02) VALUE ZEROS.
05 WS-HORARIO-SYS.
10 WS-HORA-SYS PIC 9(02) VALUE ZEROS.
10 WS-MINUTO-SYS PIC 9(02) VALUE ZEROS.
05 FILLER PIC X(09) VALUE SPACES.
*
* AREA PARA DEFINIR ACUMULADORES
*
77 ACUM-LINHAS PIC 9(02) VALUE 99.
77 ACUM-PAG PIC 9(04) VALUE ZEROS.
77 ACUM-LIDOS PIC 9(06) VALUE ZEROS.
77 ACUM-APROV PIC 9(06) VALUE ZEROS.
*
* AREA PARA DEFINIR FILE STATUS
*
77 FS-CADALUNO PIC X(02) VALUE SPACES.

```

```

77 FS-RELATO PIC X(02) VALUE SPACES.
77 FS-COD-STATUS PIC X(02) VALUE SPACES.
77 FS-ARQUIVO PIC X(08) VALUE SPACES.
77 FS-OPERACAO PIC X(13) VALUE SPACES.
77 FS-ABERTURA PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO PIC X(13) VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01 CAB001.
05 FILLER PIC X(49) VALUE
'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
05 FILLER PIC X(06) VALUE 'PAG.: '.
05 CAB001-PAG PIC Z.ZZ9.
*
01 CAB002.
05 FILLER PIC X(50) VALUE
'PROGRAMA = EXER0007'.
05 CAB002-DIA PIC 99/.
05 CAB002-MES PIC 99/.
05 CAB002-ANO PIC 9999.
*
01 CAB003.
05 FILLER PIC X(15) VALUE SPACES.
05 FILLER PIC X(45) VALUE
'LISTAGEM DOS ALUNOS APROVADOS'.
*
01 CAB004.
05 FILLER PIC X(14) VALUE 'CODIGO'.
05 FILLER PIC X(31) VALUE
'NOME DO ALUNO'.
05 FILLER PIC X(10) VALUE 'MEDIA'.
05 FILLER PIC X(05) VALUE 'TURMA'.
*
01 DET001.
05 FILLER PIC X(01) VALUE ' '.
05 DET001-COD PIC 9(04).
05 FILLER PIC X(05) VALUE SPACES.
05 DET001-NOME PIC X(30).
05 FILLER PIC X(05) VALUE SPACES.
05 DET001-MEDIA PIC Z9,99.
05 FILLER PIC X(06) VALUE SPACES.
05 DET001-TURMA PIC 9(03).
05 FILLER PIC X(01) VALUE ' '.
*
01 TOT001.
05 FILLER PIC X(28) VALUE
'TOTAL DE ALUNOS LIDOS : '.
05 TOT001-LIDOS PIC 999.999.
05 FILLER PIC X(25) VALUE SPACES.
*
01 TOT002.
05 FILLER PIC X(28) VALUE
'TOTAL DE ALUNOS APROVADOS : '.
05 TOT002-APROV PIC 999.999.
05 FILLER PIC X(25) VALUE SPACES.
*
PROCEDURE DIVISION.

*****
000-00-INICIO SECTION.
*****

```

```

PERFORM 001-00-ABRIR-ARQUIVOS.
PERFORM 002-00-OBTER-DATA.
PERFORM 003-00-VER-ARQ-VAZIO.
PERFORM 004-00-TRATAR-CADALUNO UNTIL
FS-CADALUNO EQUAL '10'.

```

```

PERFORM      005-00-IMPRIMIR-TOTAIS.

PERFORM      006-00-FECHAR-ARQUIVOS.

STOP        RUN.

*====*
001-00-ABRIR-ARQUIVOS          SECTION.
*====*

MOVE        FS-ABERTURA          TO          FS-OPERACAO.

OPEN        INPUT  CADALUNO
           OUTPUT  RELATO.

PERFORM      001-01-TESTAR-FS.

001-00-FIM.                      EXIT.

*====*
001-01-TESTAR-FS              SECTION.
*====*

PERFORM      001-02-FS-CADALUNO.

PERFORM      001-03-FS-RELATO.

001-01-FIM.                      EXIT.

*====*
001-02-FS-CADALUNO          SECTION.
*====*

MOVE        'CADALUNO'          TO          FS-ARQUIVO.

MOVE        FS-CADALUNO          TO          FS-COD-STATUS.

IF  FS-CADALUNO  NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-02-FIM.                      EXIT.

*====*
001-03-FS-RELATO          SECTION.
*====*

MOVE        'RELATO'          TO          FS-ARQUIVO.

MOVE        FS-RELATO          TO          FS-COD-STATUS.

IF  FS-RELATO  NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-03-FIM.                      EXIT.

*====*
002-00-OBTER-DATA          SECTION.
*====*

MOVE        FUNCTION CURRENT-DATE  TO          WS-DATA-HORARIO-SYS.

MOVE        WS-DIA-SYS          TO          CAB002-DIA.

MOVE        WS-MES-SYS          TO          CAB002-MES.

MOVE        WS-ANO-SYS          TO          CAB002-ANO.

002-00-FIM.                      EXIT.

*====*
003-00-VER-ARQ-VAZIO          SECTION.

```

```

PERFORM      003-01-LER-CADALUNO.

IF  FS-CADALUNO      EQUAL      '10'
  DISPLAY '***** EXER0007 *****'
  DISPLAY '*
  DISPLAY '*          ARQUIVO CADALUNO VAZIO      *
  DISPLAY '*
  DISPLAY '*          PROGRAMA CANCELADO          *
  DISPLAY '*
  DISPLAY '***** EXER0007 *****'
PERFORM 006-00-FECHAR-ARQUIVOS
STOP      RUN
END-IF.
  
```

```
003-00-FIM.          EXIT.
```

```
003-01-LER-CADALUNO      SECTION.
*****
```

```

MOVE      FS-LEITURA      TO      FS-OPERACAO.

READ      CADALUNO.

IF  FS-CADALUNO      NOT EQUAL      '10'
  PERFORM 001-02-FS-CADALUNO
  ADD      1      TO      ACUM-LIDOS
END-IF.
  
```

```
003-01-FIM.          EXIT.
```

```
004-00-TRATAR-CADALUNO      SECTION.
*****
```

```

MOVE      FS-GRAVACAO      TO      FS-OPERACAO.

COMPUTE WS-MEDIA = ((NOTA1ALU +
                    NOTA2ALU +
                    NOTA3ALU +
                    NOTA4ALU) / 4).

IF  WS-MEDIA      NOT LESS      07,00
  ADD      1      TO      ACUM-APROV
  PERFORM 004-01-IMPRESSAO
END-IF.
  
```

```
PERFORM      003-01-LER-CADALUNO.
```

```
004-00-FIM.          EXIT.
```

```
004-01-IMPRESSAO      SECTION.
*****
```

```

IF  ACUM-LINHAS      GREATER      59
  PERFORM 004-02-CABECALHOS
END-IF.

MOVE      CODALU      TO      DET001-COD.

MOVE      NOMEALU      TO      DET001-NOME.

MOVE      WS-MEDIA      TO      DET001-MEDIA.

MOVE      TURMAALU      TO      DET001-TURMA.

WRITE      REG-RELATO      FROM      DET001      AFTER      1.

PERFORM      001-03-FS-RELATO.

ADD      1      TO      ACUM-LINHAS.
  
```

```

004-01-FIM.                                EXIT.

*-----*
004-02-CABECALHOS                          SECTION.
*-----*

ADD      1                                  TO      ACUM-PAG.
MOVE     ACUM-PAG                          TO      CAB001-PAG.
WRITE    REG-RELATO                        FROM    CAB001  AFTER  PAGE.
PERFORM   001-03-FS-RELATO.
WRITE    REG-RELATO                        FROM    CAB002  AFTER  1.
PERFORM   001-03-FS-RELATO.
WRITE    REG-RELATO                        FROM    CAB003  AFTER  2.
PERFORM   001-03-FS-RELATO.
WRITE    REG-RELATO                        FROM    CAB004  AFTER  2.
PERFORM   001-03-FS-RELATO.
MOVE     SPACES                             TO      REG-RELATO.
WRITE    REG-RELATO                        AFTER   1.
PERFORM   001-03-FS-RELATO.

MOVE     07                                  TO      ACUM-LINHAS.

004-02-FIM.                                EXIT.

*-----*
005-00-IMPRIMIR-TOTAIS                      SECTION.
*-----*

IF ACUM-LINHAS    GREATER    57
  PERFORM 004-02-CABECALHOS
END-IF.

MOVE     FS-GRAVACAO                        TO      FS-OPERACAO
MOVE     ACUM-LIDOS                         TO      TOT001-LIDOS.
MOVE     ACUM-APROV                         TO      TOT002-APROV.
WRITE    REG-RELATO                        FROM    TOT001  AFTER  2.
PERFORM   001-03-FS-RELATO.
WRITE    REG-RELATO                        FROM    TOT002  AFTER  1.
PERFORM   001-03-FS-RELATO.

005-00-FIM.                                EXIT.

*-----*
006-00-FECHAR-ARQUIVOS                      SECTION.
*-----*

MOVE     FS-FECHAMENTO                      TO      FS-OPERACAO.

CLOSE    CADALUNO
RELATO.

PERFORM   001-01-TESTAR-FS.

006-00-FIM.                                EXIT.

```

```
=====*
900-00-ERRO                                SECTION.
=====*

DISPLAY '***** EXER007 *****'
DISPLAY '*                                     *'
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY '*                                     *'
DISPLAY '* FILE STATUS = ' FS-COD-STATUS
'                                     *'
DISPLAY '*                                     *'
DISPLAY '* PROGRAMA ENCERRADO'
'                                     *'
DISPLAY '*                                     *'
DISPLAY '***** EXER007 *****'
STOP RUN.

900-00-FIM.                                EXIT.
```

8 Exercício 08 – EXER0008

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0008.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* EMITE LISTAGEM ANALITICA DE MATERIAIS
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
SELECT CADMAT ASSIGN TO UT-S-CADMAT
FILE STATUS IS FS-CADMAT.
*
SELECT RELATO ASSIGN TO UR-S-RELATO
FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CADMAT
RECORD CONTAINS 40 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADMAT.
01 REG-CADMAT.
05 CODIGO PIC 9(05).
05 NOME PIC X(20).
05 QUANTIDADE PIC S9(05).
05 PRECO PIC S9(05)V99.
05 FILLER PIC X(03).
*
FD RELATO
RECORD CONTAINS 82 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS OMITTED
DATA RECORD IS REG-RELATO.
01 REG-RELATO PIC X(82).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.
05 WS-DATA-SYS.
10 WS-ANO-SYS PIC 9(04) VALUE ZEROS.
10 WS-MES-SYS PIC 9(02) VALUE ZEROS.
10 WS-DIA-SYS PIC 9(02) VALUE ZEROS.
05 WS-HORARIO-SYS.
10 WS-HORA-SYS PIC 9(02) VALUE ZEROS.
10 WS-MINUTO-SYS PIC 9(02) VALUE ZEROS.
05 FILLER PIC X(09) VALUE SPACES.
*
* AREAS PARA CALCULOS
*
01 WS-PRECO-TOTAL PIC 9(06)V99 VALUE 0.
01 WS-PRECO-VENDA PIC 9(06)V99 VALUE 0.
*
* AREA PARA DEFINIR ACUMULADORES
*
77 ACUM-LINHAS PIC 9(02) VALUE 99.
77 ACUM-PAG PIC 9(04) VALUE ZEROS.
*
* ARA PARA DEFINIR FILE STATUS
*
77 FS-CADMAT PIC X(02) VALUE SPACES.
77 FS-RELATO PIC X(02) VALUE SPACES.
77 FS-COD-STATUS PIC X(02) VALUE SPACES.

```

```

77 FS-ARQUIVO PIC X(08) VALUE SPACES.
77 FS-OPERACAO PIC X(13) VALUE SPACES.
77 FS-ABERTURA PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO PIC X(13) VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01 CAB001.
05 FILLER PIC X(53) VALUE
'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
05 CAB001-HORA PIC 99.
05 FILLER PIC X(01) VALUE ':'.
05 CAB001-MINUTO PIC 99.
05 FILLER PIC X(13) VALUE SPACES.
05 FILLER PIC X(06) VALUE 'PAG.: '.
05 CAB001-PAG PIC Z.ZZ9.
*
01 CAB002.
05 FILLER PIC X(82) VALUE
'PROGRAMA = EXER0008'.
*
01 CAB003.
05 FILLER PIC X(19) VALUE SPACES.
05 FILLER PIC X(35) VALUE
'LISTAGEM ANALITICA DE MATERIAIS EM '.
05 CAB002-DIA PIC 99/.
05 CAB002-MES PIC 99/.
05 CAB002-ANO PIC 9999.
05 FILLER PIC X(18) VALUE SPACES.
*
01 CAB004.
05 FILLER PIC X(35) VALUE ' CODIGO'.
05 FILLER PIC X(15) VALUE 'QUANTIDADE'.
05 FILLER PIC X(32) VALUE 'PRECO'.
*
01 CAB005.
05 FILLER PIC X(14) VALUE 'MATERIAL'.
05 FILLER PIC X(21) VALUE
'NOME DO MATERIAL'.
05 FILLER PIC X(13) VALUE 'EM ESTOQUE'.
05 FILLER PIC X(10) VALUE 'UNITARIO'.
05 FILLER PIC X(13) VALUE 'VALOR TOTAL'.
05 FILLER PIC X(11) VALUE 'VALOR VENDA'.
*
01 DET001.
05 FILLER PIC X(01) VALUE SPACE.
05 DET001-CODIGO PIC 99.999.
05 FILLER PIC X(05) VALUE SPACES.
05 DET001-NOME PIC X(20).
05 FILLER PIC X(05) VALUE SPACES.
05 DET001-QTD PIC ZZ.ZZ9.
05 FILLER PIC X(05) VALUE SPACES.
05 DET001-PRECO PIC Z.ZZ9,99.
05 FILLER PIC X(03) VALUE ' '.
05 DET001-VALOR PIC ZZZ.ZZ9,99.
05 FILLER PIC X(03) VALUE ' '.
05 DET001-VENDA PIC ZZZ.ZZ9,99.
*
PROCEDURE DIVISION.

=====
000-00-INICIO SECTION.
=====

PERFORM 001-00-ABRIR-ARQUIVOS.

PERFORM 002-00-OBTER-DATA-HORA.

PERFORM 003-00-VER-ARQ-VAZIO.

PERFORM 004-00-TRATAR-CADMAT UNTIL
FS-CADMAT EQUAL '10'.

```

```
PERFORM      005-00-FECHAR-ARQUIVOS.

STOP        RUN.

*=====  
001-00-ABRIR-ARQUIVOS          SECTION.  
*=====*
```

```
MOVE        FS-ABERTURA          TO        FS-OPERACAO.

OPEN        INPUT  CADMAT
           OUTPUT RELATO.

PERFORM      001-01-TESTAR-FS.

001-00-FIM.                      EXIT.

*=====  
001-01-TESTAR-FS              SECTION.  
*=====*
```

```
PERFORM      001-02-FS-CADMAT.

PERFORM      001-03-FS-RELATO.

001-01-FIM.                      EXIT.

*=====  
001-02-FS-CADMAT              SECTION.  
*=====*
```

```
MOVE        'CADMAT'              TO        FS-ARQUIVO.

MOVE        FS-CADMAT              TO        FS-COD-STATUS.

IF  FS-CADMAT          NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-02-FIM.                      EXIT.

*=====  
001-03-FS-RELATO              SECTION.  
*=====*
```

```
MOVE        'RELATO'              TO        FS-ARQUIVO.

MOVE        FS-RELATO              TO        FS-COD-STATUS.

IF  FS-RELATO          NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-03-FIM.                      EXIT.

*=====  
002-00-OBTER-DATA-HORA        SECTION.  
*=====*
```

```
MOVE        FUNCTION CURRENT-DATE TO        WS-DATA-HORARIO-SYS.

MOVE        WS-HORA-SYS          TO        CAB001-HORA.

MOVE        WS-MINUTO-SYS        TO        CAB001-MINUTO.

MOVE        WS-DIA-SYS           TO        CAB002-DIA.

MOVE        WS-MES-SYS           TO        CAB002-MES.

MOVE        WS-ANO-SYS           TO        CAB002-ANO.

002-00-FIM.                      EXIT.
```

```

=====
003-00-VER-ARQ-VAZIO                SECTION.
=====

    PERFORM      003-01-LER-CADMAT.

    IF  FS-CADMAT      EQUAL      '10'
      DISPLAY '***** EXER008 *****'
      DISPLAY '*
      DISPLAY '*          ARQUIVO CADMAT VAZIO          *
      DISPLAY '*
      DISPLAY '*          PROGRAMA CANCELADO            *
      DISPLAY '*
      DISPLAY '***** EXER008 *****'
    PERFORM 005-00-FECHAR-ARQUIVOS
    STOP   RUN
    END-IF.

003-00-FIM.                EXIT.

=====
003-01-LER-CADMAT                SECTION.
=====

    MOVE  FS-LEITURA      TO      FS-OPERACAO.

    READ  CADMAT.

    IF  FS-CADMAT      NOT EQUAL  '10'
      PERFORM 001-02-FS-CADMAT
    END-IF.

003-01-FIM.                EXIT.

=====
004-00-TRATAR-CADMAT                SECTION.
=====

    PERFORM      004-01-IMPRESSAO.

    PERFORM      003-01-LER-CADMAT.

004-00-FIM.                EXIT.

=====
004-01-IMPRESSAO                SECTION.
=====

    MOVE  FS-GRAVACAO      TO      FS-OPERACAO

    IF  ACUM-LINHAS      GREATER  59
      PERFORM 004-02-CABECALHOS
    END-IF.

    COMPUTE WS-PRECO-TOTAL = QUANTIDADE * PRECO.

*****
*
*  USO DO NINHO DE IF
*  =====
*
*  IF  CODIGO      NOT GREATER 10000
*  COMPUTE WS-PRECO-VENDA = WS-PRECO-TOTAL * 1,10
*  ELSE
*  IF  (CODIGO      NOT GREATER 20000)
*  COMPUTE WS-PRECO-VENDA = WS-PRECO-TOTAL * 1,15
*  ELSE
*  IF  (CODIGO NOT GREATER 30000)
*  COMPUTE WS-PRECO-VENDA = WS-PRECO-TOTAL * 1,22
*  ELSE
*  COMPUTE WS-PRECO-VENDA = WS-PRECO-TOTAL * 1,30
*  END-IF
*

```

```

*          END-IF                                     *
*          END-IF.                                   *
*                                                                 *
*****
EVALUATE  TRUE
  WHEN  CODIGO  NOT GREATER 10000
        COMPUTE WS-PRECO-VENDA = WS-PRECO-TOTAL * 1,10
  WHEN  CODIGO  NOT GREATER 20000
        COMPUTE WS-PRECO-VENDA = WS-PRECO-TOTAL * 1,15
  WHEN  CODIGO  NOT GREATER 30000
        COMPUTE WS-PRECO-VENDA = WS-PRECO-TOTAL * 1,22
  WHEN  OTHER
        COMPUTE WS-PRECO-VENDA = WS-PRECO-TOTAL * 1,30
END-EVALUATE.

MOVE  CODIGO          TO  DET001-CODIGO.
MOVE  NOME             TO  DET001-NOME.
MOVE  QUANTIDADE      TO  DET001-QTD.
MOVE  PRECO           TO  DET001-PRECO.
MOVE  WS-PRECO-TOTAL  TO  DET001-VALOR.
MOVE  WS-PRECO-VENDA  TO  DET001-VENDA.
WRITE REG-RELATO      FROM  DET001  AFTER  1.

PERFORM 001-03-FS-RELATO.

ADD 1 TO ACUM-LINHAS.

004-01-FIM. EXIT.

=====
004-02-CABECALHOS SECTION.
=====
ADD 1 TO ACUM-PAG.
MOVE ACUM-PAG TO CAB001-PAG.
WRITE REG-RELATO FROM CAB001 AFTER PAGE.
PERFORM 001-03-FS-RELATO.
WRITE REG-RELATO FROM CAB002 AFTER 1.
PERFORM 001-03-FS-RELATO.
WRITE REG-RELATO FROM CAB003 AFTER 2.
PERFORM 001-03-FS-RELATO.
WRITE REG-RELATO FROM CAB004 AFTER 2.
PERFORM 001-03-FS-RELATO.
WRITE REG-RELATO FROM CAB005 AFTER 1.
PERFORM 001-03-FS-RELATO.
MOVE SPACES TO REG-RELATO.
WRITE REG-RELATO AFTER 1.
PERFORM 001-03-FS-RELATO.
MOVE 08 TO ACUM-LINHAS.

004-02-FIM. EXIT.

```



```
*=====*
```

```
005-00-FECHAR-ARQUIVOS          SECTION.
```

```
*=====*
```

```
MOVE    FS-FECHAMENTO           TO    FS-OPERACAO.
```

```
CLOSE   CADMAT
```

```
        RELATO.
```

```
PERFORM 001-01-TESTAR-FS.
```

```
005-00-FIM.                      EXIT.
```

```
*=====*
```

```
900-00-ERRO                      SECTION.
```

```
*=====*
```

```
DISPLAY '***** EXER008 *****'
```

```
DISPLAY '*'
```

```
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
```

```
DISPLAY '*'
```

```
DISPLAY '* FILE STATUS = ' FS-COD-STATUS
```

```
        '*'
```

```
DISPLAY '*'
```

```
DISPLAY '* PROGRAMA ENCERRADO'
```

```
        '*'
```

```
DISPLAY '*'
```

```
DISPLAY '***** EXER008 *****'
```

```
STOP    RUN.
```

```
900-00-FIM.                      EXIT.
```

9 Exercício 09 – EXER0009

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0009.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* GERAR ARQUIVO DE COTACOES SELECIONADAS E DESPREZADAS
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
        DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
        SELECT CADCOTA ASSIGN TO UT-S-CADCATO
        FILE STATUS IS FS-CADCOTA.
*
        SELECT COTASELE ASSIGN TO UT-S-COTASELE
        FILE STATUS IS FS-COTASELE.
*
        SELECT COTADESP ASSIGN TO US-S-COTADESP
        FILE STATUS IS FS-COTADESP.
*
DATA DIVISION.
FILE SECTION.
*
FD CADCOTA
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADCOTA.
01 REG-CADCOTA.
05 COD-PECA PIC 9(05).
05 QTD-COTADA PIC 9(05).
05 DATA-COTADA.
10 DIA-COTADO PIC 9(02).
10 MES-COTADO PIC 9(02).
10 ANO-COTADO PIC 9(02).
05 COTACOES.
10 COTACAO-01.
15 FORNE01 PIC 9(05).
15 PRECO01 PIC 9(13)V99.
10 COTACAO-02.
15 FORNE02 PIC 9(05).
15 PRECO02 PIC 9(13)V99.
10 COTACAO-03.
15 FORNE03 PIC 9(05).
15 PRECO03 PIC 9(13)V99.
05 FILLER PIC X(04).
*
FD COTASELE
RECORD CONTAINS 40 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-COTASELE.
01 REG-COTASELE.
05 COD-PECA-S PIC 9(05).
05 QTD-COTADA-S PIC 9(05).
05 DATA-COTADA-S.
10 DIA-COTADO-S PIC 9(02).
10 MES-COTADO-S PIC 9(02).
10 ANO-COTADO-S PIC 9(02).
05 COTACOES-S.
10 FORNE-S PIC 9(05).
10 PRECO-S PIC 9(13)V99.
05 FILLER PIC X(04).
*
FD COTADESP
RECORD CONTAINS 40 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD

```

```

DATA          RECORD      IS  REG-COTADESP.
01  REG-COTADESP.
05  COD-PECA-D           PIC  9(05).
05  QTD-COTADA-D        PIC  9(05).
05  DATA-COTADA-D.
    10  DIA-COTADO-D     PIC  9(02).
    10  MES-COTADO-D    PIC  9(02).
    10  ANO-COTADO-D    PIC  9(02).
05  COTACOES-D.
    10  FORNE-D         PIC  9(05).
    10  PRECO-D         PIC  9(13)V99.
05  FILLER              PIC  X(04).

*
WORKING-STORAGE SECTION.
*
* AREA PARA DEFINIR FILE STATUS
*
77  FS-CADCOTA          PIC  X(02) VALUE SPACES.
77  FS-COTASELE        PIC  X(02) VALUE SPACES.
77  FS-COTADESP        PIC  X(02) VALUE SPACES.
77  FS-COD-STATUS      PIC  X(02) VALUE SPACES.
77  FS-ARQUIVO         PIC  X(08) VALUE SPACES.
77  FS-OPERACAO        PIC  X(13) VALUE SPACES.
77  FS-ABERTURA       PIC  X(13) VALUE 'NA ABERTURA'.
77  FS-LEITURA        PIC  X(13) VALUE 'NA LEITURA'.
77  FS-GRAVACAO        PIC  X(13) VALUE 'NA GRAVACAO'.
77  FS-FECHAMENTO     PIC  X(13) VALUE 'NO FECHAMENTO'.

*
PROCEDURE          DIVISION.

*====*
000-00-INICIO          SECTION.
*====*

    PERFORM          001-00-ABRIR-ARQUIVOS.

    PERFORM          002-00-VER-ARQ-VAZIO.

    PERFORM          003-00-TRATAR-CADCOTA UNTIL
                    FS-CADCOTA EQUAL '10'.

    PERFORM          004-00-FECHAR-ARQUIVOS.

    STOP            RUN.

*====*
001-00-ABRIR-ARQUIVOS SECTION.
*====*

    MOVE          FS-ABERTURA          TO          FS-OPERACAO.

    OPEN          INPUT  CADCOTA
                  OUTPUT COTASELE
                  COTADESP.

    PERFORM          001-01-TESTAR-FS.

001-00-FIM.          EXIT.

*====*
001-01-TESTAR-FS    SECTION.
*====*

    PERFORM          001-02-FS-CADCOTA.

    PERFORM          001-03-FS-COTASELE.

    PERFORM          001-04-FS-COTADESP.

001-01-FIM.          EXIT.

*====*
001-02-FS-CADCOTA  SECTION.
*====*

```

```

MOVE      'CADCOTA'                TO      FS-ARQUIVO.

MOVE      FS-CADCOTA              TO      FS-COD-STATUS.

IF  FS-CADCOTA      NOT EQUAL  '00' AND '10'
  PERFORM 900-00-ERRO
END-IF.

001-02-FIM.                        EXIT.

*=====*
001-03-FS-COTASELE                SECTION.
*=====*

MOVE      'COTASELE'              TO      FS-ARQUIVO.

MOVE      FS-COTASELE            TO      FS-COD-STATUS.

IF  FS-COTASELE      NOT EQUAL  '00' AND '10'
  PERFORM 900-00-ERRO
END-IF.

001-03-FIM.                        EXIT.

*=====*
001-04-FS-COTADESP                SECTION.
*=====*

MOVE      'COTADESP'              TO      FS-ARQUIVO.

MOVE      FS-COTADESP            TO      FS-COD-STATUS.

IF  FS-COTADESP      NOT EQUAL  '00' AND '10'
  PERFORM 900-00-ERRO
END-IF.

001-04-FIM.                        EXIT.

*=====*
002-00-VER-ARQ-VAZIO              SECTION.
*=====*

PERFORM      002-01-LER-CADCOTA.

IF  FS-CADCOTA      EQUAL      '10'
  DISPLAY '***** EXER009 *****'
  DISPLAY '* * * * *'
  DISPLAY '*          ARQUIVO CADCOTA VAZIO * * * * *'
  DISPLAY '* * * * *'
  DISPLAY '*          PROGRAMA CANCELADO * * * * *'
  DISPLAY '* * * * *'
  DISPLAY '***** EXER009 *****'
  PERFORM 004-00-FECHAR-ARQUIVOS
  STOP      RUN
END-IF.

002-00-FIM.                        EXIT.

*=====*
002-01-LER-CADCOTA                SECTION.
*=====*

MOVE      FS-LEITURA            TO      FS-OPERACAO.

READ      CADCOTA.

IF  FS-CADCOTA      NOT EQUAL  '10'
  PERFORM 001-02-FS-CADCOTA
END-IF.

002-01-FIM.                        EXIT.

*=====*

```

```

003-00-TRATAR-CADCOTA          SECTION.
===== *
      MOVE      COD-PECA          TO      COD-PECA-S
                                COD-PECA-D.

      MOVE      QTD-COTADA        TO      QTD-COTADA-S
                                QTD-COTADA-D.

      MOVE      DATA-COTADA      TO      DATA-COTADA-S
                                DATA-COTADA-D.

      MOVE      FS-GRAVACAO       TO      FS-OPERACAO.

      PERFORM   003-01-COMPARAR-PRECO.S.

      PERFORM   002-01-LER-CADCOTA.

003-00-FIM.                    EXIT.

===== *
003-01-COMPARAR-PRECO          SECTION.
===== *

      IF (PRECO01      LESS      PRECO02 AND PRECO03)
        PERFORM   003-02-PRECO1-SELECIONADO
      ELSE
        IF PRECO02      LESS      PRECO03
          PERFORM 003-03-PRECO2-SELECIONADO
        ELSE
          PERFORM 003-04-PRECO3-SELECIONADO
        END-IF
      END-IF.

003-01-FIM.                    EXIT.

===== *
003-02-PRECO1-SELECIONADO     SECTION.
===== *

      MOVE      FORNE01          TO      FORNE-S.

      MOVE      PRECO01          TO      PRECO-S.

      WRITE    REG-COTASELE.

      PERFORM   001-03-FS-COTASELE.

      PERFORM   003-05-PRECO2-DESPREZADO.

      PERFORM   003-06-PRECO3-DESPREZADO.

003-02-FIM.                    EXIT.

===== *
003-03-PRECO2-SELECIONADO     SECTION.
===== *

      MOVE      FORNE02          TO      FORNE-S.

      MOVE      PRECO02          TO      PRECO-S.

      WRITE    REG-COTASELE.

      PERFORM   001-03-FS-COTASELE.

      PERFORM   003-07-PRECO1-DESPREZADO.

      PERFORM   003-06-PRECO3-DESPREZADO.

003-03-FIM.                    EXIT.

===== *
003-04-PRECO3-SELECIONADO     SECTION.

```

```
*=====*
```

```
MOVE FORNE03 TO FORNE-S.
```

```
MOVE PRECO03 TO PRECO-S.
```

```
WRITE REG-COTASELE.
```

```
PERFORM 001-03-FS-COTASELE.
```

```
PERFORM 003-07-PRECO1-DESPREZADO.
```

```
PERFORM 003-05-PRECO2-DESPREZADO.
```

```
003-04-FIM. EXIT.
```

```
*=====*
```

```
003-05-PRECO2-DESPREZADO SECTION.
```

```
*=====*
```

```
MOVE FORNE02 TO FORNE-D.
```

```
MOVE PRECO02 TO PRECO-D.
```

```
WRITE REG-COTADESP.
```

```
PERFORM 001-04-FS-COTADESP.
```

```
003-05-FIM. EXIT.
```

```
*=====*
```

```
003-06-PRECO3-DESPREZADO SECTION.
```

```
*=====*
```

```
MOVE FORNE03 TO FORNE-D.
```

```
MOVE PRECO03 TO PRECO-D.
```

```
WRITE REG-COTADESP.
```

```
PERFORM 001-04-FS-COTADESP.
```

```
003-06-FIM. EXIT.
```

```
*=====*
```

```
003-07-PRECO1-DESPREZADO SECTION.
```

```
*=====*
```

```
MOVE FORNE01 TO FORNE-D.
```

```
MOVE PRECO01 TO PRECO-D.
```

```
WRITE REG-COTADESP.
```

```
PERFORM 001-04-FS-COTADESP.
```

```
003-07-FIM. EXIT.
```

```
*=====*
```

```
004-00-FECHAR-ARQUIVOS SECTION.
```

```
*=====*
```

```
MOVE FS-FECHAMENTO TO FS-OPERACAO.
```

```
CLOSE CADCOTA
```

```
COTASELE
```

```
COTADESP.
```

```
PERFORM 001-01-TESTAR-FS.
```

```
004-00-FIM. EXIT.
```

```
*=====*
```

```
900-00-ERRO SECTION.
```

=====

```
DISPLAY '***** EXER009 *****'  
DISPLAY '*  
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'  
DISPLAY '*  
DISPLAY '* FILE STATUS = ' FS-COD-STATUS  
          '*  
DISPLAY '*  
DISPLAY '* PROGRAMA ENCERRADO'  
          '*  
DISPLAY '*  
DISPLAY '***** EXER009 *****'  
STOP    RUN.
```

900-00-FIM.

EXIT.

10 Exercício 10 – EXER0010

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0010.
AUTHOR. FUTURE SCHOOL SCHOOL LTDA.
*
* EMITE RELATORIO DE ALUNOS MATRICULADOS POR TURMA
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
SELECT CADALUNO ASSIGN TO UT-S-CADALUNO
FILE STATUS IS FS-CADALUNO.
*
SELECT RELATO ASSIGN TO UR-S-RELATO
FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CADALUNO
RECORD CONTAINS 60 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADALUNO.
01 REG-CADALUNO.
05 CODALU PIC 9(04).
05 NOMEALU PIC X(30).
05 TURMALU PIC 9(03).
05 NOTA1-ALU PIC 9(02)V99.
05 NOTA2-ALU PIC 9(02)V99.
05 NOTA3-ALU PIC 9(02)V99.
05 NOTA4-ALU PIC 9(02)V99.
05 FILLER PIC X(07).
*
FD RELATO
RECORD CONTAINS 50 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS OMITTED
DATA RECORD IS REG-RELATO.
01 REG-RELATO.
05 FILLER PIC X(60).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.
05 WS-DATA-SYS.
10 WS-ANO-SYS PIC 9(04) VALUE ZEROS.
10 WS-MES-SYS PIC 9(02) VALUE ZEROS.
10 WS-DIA-SYS PIC 9(02) VALUE ZEROS.
05 WS-HORARIO-SYS.
10 WS-HORA-SYS PIC 9(02) VALUE ZEROS.
10 WS-MINUTO-SYS PIC 9(02) VALUE ZEROS.
05 FILLER PIC X(09) VALUE SPACES.
*
* AREAS PARA DEFINIR QUEBRAS
*
01 WS-TURMA-ANT PIC 9(03) VALUE ZEROS.
*
* AREA PARA DEFINIR ACUMULADORES
*
77 ACUM-LINHAS PIC 9(02) VALUE 99.
77 ACUM-PAG PIC 9(04) VALUE 0000.
77 ACUM-ALUNOS PIC 9(04) VALUE ZEROS.
77 ACUM-LIDOS PIC 9(04) VALUE ZEROS.
*

```



```

* AREA PARA DEFINIR FILE STATUS
*
77 FS-CADALUNO          PIC X(02) VALUE SPACES.
77 FS-RELATO           PIC X(02) VALUE SPACES.
77 FS-COD-STATUS       PIC X(02) VALUE SPACES.
77 FS-ARQUIVO          PIC X(08) VALUE SPACES.
77 FS-OPERACAO         PIC X(13) VALUE SPACES.
77 FS-ABERTURA        PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA         PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO         PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO       PIC X(13) VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01 CAB001.
05 FILLER              PIC X(39) VALUE
   'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
05 CAB001-HORA         PIC 99.
05 FILLER              PIC X(01) VALUE ':'.
05 CAB001-MINUTO      PIC 99.
05 FILLER              PIC X(05) VALUE SPACES.
05 FILLER              PIC X(06) VALUE 'PAG.:'.
05 CAB001-PAG         PIC Z.ZZ9.
*
01 CAB002.
05 FILLER              PIC X(50) VALUE
   'PROGRAMA = EXER0010'.
05 CAB002-DIA         PIC 99/.
05 CAB002-MES        PIC 99/.
05 CAB002-ANO        PIC 9999.
*
01 CAB003.
05 FILLER              PIC X(60) VALUE
   '
   RELATORIO DE ALUNOS MATRICULADOS POR TURMA'.
*
01 CAB004.
05 FILLER              PIC X(60) VALUE ALL '='.
*
01 CAB005.
05 FILLER              PIC X(18) VALUE 'CODIGO'.
05 FILLER              PIC X(37) VALUE
   'NOME DO ALUNO'.
05 FILLER              PIC X(05) VALUE 'TURMA'.
*
01 DET001.
05 FILLER              PIC X      VALUE SPACE.
05 DET001-CODIGO     PIC 9(04).
05 FILLER              PIC X(10) VALUE SPACES.
05 DET001-NOME       PIC X(30).
05 FILLER              PIC X(11) VALUE SPACES.
05 DET001-TURMA     PIC 9(03).
05 FILLER              PIC X(01) VALUE SPACES.
*
01 TOT001.
05 FILLER              PIC X(12) VALUE
   '***** TURMA '.
05 TOT001-TURMA     PIC 9(03).
05 FILLER              PIC X(25) VALUE
   '
   TOTAL DE ALUNOS =>'.
05 TOT001-ALUNOS    PIC Z.ZZ9.
05 FILLER              PIC X(15) VALUE SPACES.
*
01 TOT002.
05 FILLER              PIC X(39) VALUE
   '***** TOTAL DE ALUNOS LIDOS
   =>'.
05 TOT002-ALUNOS    PIC ZZ.ZZ9.
05 FILLER              PIC X(15) VALUE SPACES.
*
PROCEDURE            DIVISION.

=====
000-00-INICIO              SECTION.
=====

```

```

PERFORM      001-00-ABRIR-ARQUIVOS.

PERFORM      002-00-OBTER-DATA-HORA.

PERFORM      003-00-VER-ARQ-VAZIO.

PERFORM      004-00-TRATAR-CADALUNO UNTIL
FS-CADALUNO EQUAL  '10'.

PERFORM      005-00-IMPRIMIR-TOTAIS.

PERFORM      006-00-FECHAR-ARQUIVOS.

STOP        RUN.

```

```

=====
001-00-ABRIR-ARQUIVOS          SECTION.
=====

```

```

MOVE        FS-ABERTURA          TO        FS-OPERACAO.

OPEN        INPUT  CADALUNO
           OUTPUT RELATO.

```

```

PERFORM      001-01-TESTAR-FS.

```

```

001-00-FIM.                      EXIT.

```

```

=====
001-01-TESTAR-FS              SECTION.
=====

```

```

PERFORM      001-02-FS-CADALUNO.

```

```

PERFORM      001-03-FS-RELATO.

```

```

001-01-FIM.                      EXIT.

```

```

=====
001-02-FS-CADALUNO          SECTION.
=====

```

```

MOVE        'CADALUNO'          TO        FS-ARQUIVO.

MOVE        FS-CADALUNO          TO        FS-COD-STATUS.

IF  FS-CADALUNO  NOT EQUAL  '00' AND '10'
  PERFORM 900-00-ERRO
END-IF.

```

```

001-02-FIM.                      EXIT.

```

```

=====
001-03-FS-RELATO            SECTION.
=====

```

```

MOVE        'RELATO'            TO        FS-ARQUIVO.

MOVE        FS-RELATO            TO        FS-COD-STATUS.

IF  FS-RELATO  NOT EQUAL  '00' AND '10'
  PERFORM 900-00-ERRO
END-IF.

```

```

001-03-FIM.                      EXIT.

```

```

=====
002-00-OBTER-DATA-HORA      SECTION.
=====

```

```

MOVE        FUNCTION CURRENT-DATE TO        WS-DATA-HORARIO-SYS.

MOVE        WS-HORA-SYS          TO        CAB001-HORA.

```

```

MOVE    WS-MINUTO-SYS          TO      CAB001-MINUTO.

MOVE    WS-DIA-SYS            TO      CAB002-DIA.

MOVE    WS-MES-SYS           TO      CAB002-MES.

MOVE    WS-ANO-SYS           TO      CAB002-ANO.

002-00-FIM.                    EXIT.

=====
003-00-VER-ARQ-VAZIO          SECTION.
=====

PERFORM    003-01-LER-CADALUNO.

IF  FS-CADALUNO      EQUAL      '10'
  DISPLAY '***** EXER0010 *****'
  DISPLAY '* * * * *'
  DISPLAY '*          ARQUIVO CADALUNO VAZIO * * * * *'
  DISPLAY '* * * * *'
  DISPLAY '*          PROGRAMA CANCELADO * * * * *'
  DISPLAY '* * * * *'
  DISPLAY '***** EXER0010 *****'
  PERFORM 006-00-FECHAR-ARQUIVOS
  STOP    RUN
END-IF.

MOVE    TURMALU              TO      WS-TURMA-ANT.

003-00-FIM.                    EXIT.

=====
003-01-LER-CADALUNO          SECTION.
=====

MOVE    FS-LEITURA          TO      FS-OPERACAO.

READ    CADALUNO.

IF  FS-CADALUNO      NOT EQUAL  '10'
  PERFORM 001-02-FS-CADALUNO
  ADD 1                                TO      ACUM-LIDOS
END-IF.

003-01-FIM.                    EXIT.

=====
004-00-TRATAR-CADALUNO      SECTION.
=====

MOVE    FS-GRAVACAO         TO      FS-OPERACAO.

IF  TURMALU              NOT EQUAL  WS-TURMA-ANT
  PERFORM 004-03-QUEBRA-TURMA
  MOVE    TURMALU          TO      WS-TURMA-ANT
  MOVE    0                 TO      ACUM-ALUNOS
END-IF.

ADD    1                    TO      ACUM-ALUNOS.

PERFORM    004-01-IMPRESSAO.

PERFORM    003-01-LER-CADALUNO.

004-00-FIM.                    EXIT.

=====
004-01-IMPRESSAO            SECTION.
=====

IF  ACUM-LINHAS          GREATER    59
  PERFORM    004-02-CABECALHO
END-IF.

```

```

MOVE    CODALU                TO      DET001-CODIGO.
MOVE    NOMEALU               TO      DET001-NOME.
MOVE    TURMALU               TO      DET001-TURMA.
WRITE   REG-RELATO            FROM    DET001  AFTER  1.
PERFORM      001-03-FS-RELATO.
ADD     1                      TO      ACUM-LINHAS.
004-01-FIM.                    EXIT.

*=====*
004-02-CABECALHO              SECTION.
*=====*

ADD     1                      TO      ACUM-PAG.
MOVE    ACUM-PAG              TO      CAB001-PAG.
WRITE   REG-RELATO            FROM    CAB001  AFTER  PAGE.
PERFORM      001-03-FS-RELATO.
WRITE   REG-RELATO            FROM    CAB002  AFTER  1.
PERFORM      001-03-FS-RELATO.
WRITE   REG-RELATO            FROM    CAB003  AFTER  2.
PERFORM      001-03-FS-RELATO.
WRITE   REG-RELATO            FROM    CAB004  AFTER  2.
PERFORM      001-03-FS-RELATO.
WRITE   REG-RELATO            FROM    CAB005  AFTER  1.
PERFORM      001-03-FS-RELATO.
WRITE   REG-RELATO            FROM    CAB004  AFTER  1.
PERFORM      001-03-FS-RELATO.
MOVE    SPACES                TO      REG-RELATO.
WRITE   REG-RELATO            AFTER   1.
PERFORM      001-03-FS-RELATO.
MOVE    9                      TO      ACUM-LINHAS.
004-02-FIM.                    EXIT.

*=====*
004-03-QUEBRA-TURMA          SECTION.
*=====*

IF ACUM-LINHAS      GREATER  58
  PERFORM      004-02-CABECALHO
END-IF.

MOVE    FS-GRAVACAO          TO      FS-OPERACAO.
MOVE    WS-TURMA-ANT         TO      TOT001-TURMA.
MOVE    ACUM-ALUNOS          TO      TOT001-ALUNOS
WRITE   REG-RELATO            FROM    TOT001  AFTER  2.
PERFORM      001-03-FS-RELATO.

```

```

MOVE      SPACES                TO      REG-RELATO.

WRITE     REG-RELATO                AFTER  1.

PERFORM   001-03-FS-RELATO.

ADD       3                        TO      ACUM-LINHAS.

004-03-FIM.                            EXIT.

*====*
005-00-IMPRIMIR-TOTAIS                SECTION.
*====*

PERFORM   004-03-QUEBRA-TURMA.

IF ACUM-LINHAS    GREATER    59
  PERFORM   004-02-CABECALHO
END-IF.

MOVE      ACUM-LIDOS              TO      TOT002-ALUNOS

WRITE     REG-RELATO                FROM   TOT002 AFTER  1.

PERFORM   001-03-FS-RELATO.

005-00-FIM.                            EXIT.

*====*
006-00-FECHAR-ARQUIVOS                SECTION.
*====*

MOVE      FS-FECHAMENTO            TO      FS-OPERACAO.

CLOSE     CADALUNO
          RELATO.

PERFORM   001-01-TESTAR-FS.

006-00-FIM.                            EXIT.

*====*
900-00-ERRO                            SECTION.
*====*

DISPLAY   '***** EXER0010 *****'
DISPLAY   '*                               *'
DISPLAY   '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY   '*                               *'
DISPLAY   '* FILE STATUS = ' FS-COD-STATUS
          '*                               *'
DISPLAY   '*                               *'
DISPLAY   '* PROGRAMA ENCERRADO'
          '*                               *'
DISPLAY   '*                               *'
DISPLAY   '***** EXER0010 *****'
STOP      RUN.

900-00-FIM.                            EXIT.

```

11 Exercício 11 – EXER0011

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0011.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* EMITE RELATORIO ANALITICO DE MATERIAIS
* GERA CADASTRO DE CONTA ATUAL (CADCONTA)
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
    SELECT CADMAT ASSIGN TO UT-S-CADMAT
           FILE STATUS IS FS-CADMAT.
*
    SELECT CADCONTA ASSIGN TO UT-S-CADCONTA
           FILE STATUS IS FS-CADCONTA.
*
    SELECT RELATO ASSIGN TO UR-S-RELATO
           FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CADMAT
RECORD CONTAINS 50 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADMAT.
01 REG-CADMAT.
05 COD-MAT PIC 9(05).
05 NOME-MAT PIC X(20).
05 QTD-MAT PIC S9(05).
05 VLR-UNIT PIC S9(05)V99.
05 CONTA-MAT PIC X(10).
05 FILLER PIC X(03).
*
FD CADCONTA
RECORD CONTAINS 30 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADCONTA.
01 REG-CADCONTA.
05 CONTA-CTA PIC X(10).
05 QTD-CTA PIC S9(06).
05 VALOR-CTA PIC S9(11)V99.
05 FILLER PIC X(01).
*
FD RELATO
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS OMITTED
DATA RECORD IS REG-RELATO.
01 REG-RELATO.
05 FILLER PIC X(80).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.
05 WS-DATA-SYS.
10 WS-ANO-SYS PIC 9(04) VALUE ZEROS.
10 WS-MES-SYS PIC 9(02) VALUE ZEROS.
10 WS-DIA-SYS PIC 9(02) VALUE ZEROS.
05 WS-HORARIO-SYS.

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                10 WS-HORA-SYS          PIC 9(02) VALUE ZEROS.
                10 WS-MINUTO-SYS       PIC 9(02) VALUE ZEROS.
                05 FILLER              PIC X(09) VALUE SPACES.
*
* AREA PARA DEFINIR ACUMULADORES
*
                77 ACUM-LINHAS         PIC 9(02) VALUE 99.
                77 ACUM-PAG            PIC 9(05) VALUE ZEROS.
                77 ACUM-QTD-CTA       PIC 9(06) VALUE ZEROS.
                77 ACUM-QTD-GER       PIC 9(07) VALUE ZEROS.
                77 ACUM-VLR-CTA      PIC 9(11)V99 VALUE ZEROS.
                77 ACUM-VLR-GER      PIC 9(11)V99 VALUE ZEROS.
*
* AREAS PARA DEFINIR QUEBRAS
*
                01 WS-CONTA-ANT       PIC X(10) VALUE SPACES.
*
* AREAS PARA CALCULOS
*
                01 WS-VALOR-TOTAL     PIC 9(07)V99 VALUE 0.
*
* AREA PARA DEFINIR FILE STATUS
*
                77 FS-CADMAT          PIC X(02) VALUE SPACES.
                77 FS-CADCONTA       PIC X(02) VALUE SPACES.
                77 FS-RELATO         PIC X(02) VALUE SPACES.
                77 FS-COD-STATUS     PIC X(02) VALUE SPACES.
                77 FS-ARQUIVO        PIC X(08) VALUE SPACES.
                77 FS-OPERACAO       PIC X(13) VALUE SPACES.
                77 FS-ABERTURA      PIC X(13) VALUE 'NA ABERTURA'.
                77 FS-LEITURA       PIC X(13) VALUE 'NA LEITURA'.
                77 FS-GRAVACAO       PIC X(13) VALUE 'NA GRAVACAO'.
                77 FS-FECHAMENTO     PIC X(13) VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
                01 CAB001.
                05 FILLER              PIC X(56) VALUE
                    'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
                05 CAB001-HORA       PIC 99.
                05 FILLER              PIC X VALUE ':'.
                05 CAB001-MINUTO     PIC 99.
                05 FILLER              PIC X(08) VALUE SPACES.
                05 FILLER              PIC X(06) VALUE 'PAG.:'.
                05 CAB001-PAG        PIC Z.ZZ9.
*
                01 CAB002.
                05 FILLER              PIC X(70) VALUE
                    'PGM = EXER0011'.
                05 CAB002-DIA        PIC 99/.
                05 CAB002-MES        PIC 99/.
                05 CAB002-ANO        PIC 9999.
*
                01 CAB003.
                05 FILLER              PIC X(18) VALUE SPACES.
                05 FILLER              PIC X(62) VALUE
                    'RELATORIO ANALITICO DO CADASTRO DE MATERIAIS'.
*
                01 CAB004.
                05 FILLER              PIC X(80) VALUE ALL '='.
*
                01 CAB005.
                05 FILLER              PIC X(46) VALUE ' CODIGO'.
                05 FILLER              PIC X(34) VALUE 'VALOR'.
*
                01 CAB006.
                05 FILLER              PIC X(12) VALUE 'MATERIAL'.
                05 FILLER              PIC X(20) VALUE
                    'NOME DO MATERIAL'.
                05 FILLER              PIC X(12) VALUE 'QUANTIDADE'.
                05 FILLER              PIC X(12) VALUE 'UNITARIO'.
                05 FILLER              PIC X(15) VALUE 'VALOR TOTAL'.
                05 FILLER              PIC X(09) VALUE 'CONTA'.
*

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01 DET001.
05 FILLER PIC X(01) VALUE ' '.
05 DET001-MAT PIC ZZ.ZZ9.
05 FILLER PIC X(03) VALUE SPACES.
05 DET001-NOME PIC X(20) .
05 FILLER PIC X(04) VALUE SPACES.
05 DET001-QTD PIC ZZ.ZZ9.
05 FILLER PIC X(03) VALUE SPACES.
05 DET001-PRECO PIC ZZ.ZZ9,99.
05 FILLER PIC X(03) VALUE SPACES.
05 DET001-VALOR PIC Z.ZZZ.ZZ9,99.
05 FILLER PIC X(03) VALUE SPACES.
05 DET001-CONTA PIC X(10) .
*
01 TOT001.
05 FILLER PIC X(19) VALUE
   ' * TOTAL DA CONTA '.
05 TOT001-CONTA PIC X(10) .
05 FILLER PIC X(04) VALUE SPACES.
05 TOT001-QTD PIC ZZZ.ZZ9.
05 FILLER PIC X(11) VALUE SPACES.
05 TOT001-VALOR PIC Z.ZZZ.ZZZ.ZZ9,99.
05 FILLER PIC X(13) VALUE SPACES.
*
01 TOT002.
05 FILLER PIC X(31) VALUE
   '*** TOTAL GERAL'.
05 TOT002-QTD PIC Z.ZZZ.ZZ9.
05 FILLER PIC X(10) VALUE SPACES.
05 TOT002-VALOR PIC ZZ.ZZZ.ZZZ.ZZ9,99.
05 FILLER PIC X(13) VALUE SPACES.
*
PROCEDURE DIVISION.
=====
000-00-ROTINA-PRINCIPAL SECTION.
=====

PERFORM 001-00-ABRIR-ARQUIVOS.

PERFORM 002-00-OBTER-DATA.

PERFORM 003-00-VER-ARQ-VAZIO.

PERFORM 004-00-TRATAR-CADMAT UNTIL
FS-CADMAT EQUAL '10'.

PERFORM 005-00-IMPRIMIR-TOTAIS.

PERFORM 006-00-DISPLAY-OK.

PERFORM 007-00-FECHAR-ARQUIVOS.

STOP RUN.

=====
001-00-ABRIR-ARQUIVOS SECTION.
=====

MOVE FS-ABERTURA TO FS-OPERACAO.

OPEN INPUT CADMAT
OUTPUT CADCONTA
RELATO.

PERFORM 001-01-TESTAR-FS.

001-00-FIM. EXIT.

=====
001-01-TESTAR-FS SECTION.
=====

PERFORM 001-02-FS-CADMAT.

```



```

PERFORM      001-03-FS-CADCONTA.

PERFORM      001-04-FS-RELATO.

001-01-FIM.                                EXIT.

*=====*
001-02-FS-CADMAT                            SECTION.
*=====*

MOVE      'CADMAT'                TO      FS-ARQUIVO.
MOVE      FS-CADMAT                TO      FS-COD-STATUS.

IF  FS-CADMAT      NOT EQUAL      '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-02-FIM.                                EXIT.

*=====*
001-03-FS-CADCONTA                          SECTION.
*=====*

MOVE      'CADCONTA'              TO      FS-ARQUIVO.
MOVE      FS-CADCONTA              TO      FS-COD-STATUS.

IF  FS-CADCONTA    NOT EQUAL      '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-03-FIM.                                EXIT.

*=====*
001-04-FS-RELATO                            SECTION.
*=====*

MOVE      'RELATO'                TO      FS-ARQUIVO.
MOVE      FS-RELATO                TO      FS-COD-STATUS.

IF  FS-RELATO      NOT EQUAL      '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-04-FIM.                                EXIT.

*=====*
002-00-OBTER-DATA                          SECTION.
*=====*

MOVE      FUNCTION CURRENT-DATE    TO      WS-DATA-HORARIO-SYS.
MOVE      WS-HORA-SYS              TO      CAB001-HORA.
MOVE      WS-MINUTO-SYS            TO      CAB001-MINUTO.
MOVE      WS-DIA-SYS              TO      CAB002-DIA.
MOVE      WS-MES-SYS              TO      CAB002-MES.
MOVE      WS-ANO-SYS              TO      CAB002-ANO.

002-00-FIM.                                EXIT.

*=====*
003-00-VER-ARQ-VAZIO                      SECTION.
*=====*

PERFORM      003-01-LER-CADMAT.

IF  FS-CADMAT      EQUAL          '10'
   DISPLAY '***** EXER0011 *****'

```

```

DISPLAY '*'
DISPLAY '*'          ARQUIVO CADMAT VAZIO      '*'
DISPLAY '*'
DISPLAY '*'          PROGRAMA CANCELADO       '*'
DISPLAY '*'
DISPLAY '***** EXER0011 *****'
PERFORM 007-00-FECHAR-ARQUIVOS
STOP      RUN
END-IF.

MOVE     CONTA-MAT          TO      WS-CONTA-ANT.

003-00-FIM.                      EXIT.

*====*
003-01-LER-CADMAT              SECTION.
*====*

MOVE     FS-LEITURA        TO      FS-OPERACAO

READ     CADMAT.

IF      FS-CADMAT          NOT EQUAL '10'
PERFORM 001-02-FS-CADMAT
END-IF.

003-01-FIM.                      EXIT.

*====*
004-00-TRATAR-CADMAT          SECTION.
*====*

MOVE     FS-GRAVACAO        TO      FS-OPERACAO.

IF      CONTA-MAT          NOT EQUAL WS-CONTA-ANT
MOVE     FS-GRAVACAO        TO      FS-OPERACAO
PERFORM 004-03-QUEBRA-CONTA
MOVE     CONTA-MAT          TO      WS-CONTA-ANT
MOVE     ZEROS              TO      ACUM-QTD-CTA
                                 ACUM-VLR-CTA
END-IF.

COMPUTE WS-VALOR-TOTAL = QTD-MAT * VLR-UNIT.

COMPUTE ACUM-QTD-CTA   = ACUM-QTD-CTA + QTD-MAT.

COMPUTE ACUM-VLR-CTA   = ACUM-VLR-CTA + WS-VALOR-TOTAL.

COMPUTE ACUM-QTD-GER   = ACUM-QTD-GER + QTD-MAT.

COMPUTE ACUM-VLR-GER   = ACUM-VLR-GER + WS-VALOR-TOTAL.

PERFORM      004-01-IMPRESSAO.

PERFORM      003-01-LER-CADMAT.

004-00-FIM.                      EXIT.

*====*
004-01-IMPRESSAO              SECTION.
*====*

IF      ACUM-LINHAS          GREATER 59
PERFORM 004-02-CABECALHOS
END-IF.

MOVE     COD-MAT            TO      DET001-MAT.

MOVE     NOME-MAT           TO      DET001-NOME.

MOVE     QTD-MAT            TO      DET001-QTD.

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MOVE      VLR-UNIT                TO      DET001-PRECO.
MOVE      WS-VALOR-TOTAL          TO      DET001-VALOR.
MOVE      CONTA-MAT               TO      DET001-CONTA.
WRITE     REG-RELATO              FROM    DET001  AFTER  1.
PERFORM   001-04-FS-RELATO.
ADD       1                       TO      ACUM-LINHAS.
004-01-FIM.                       EXIT.

*=====*
004-02-CABECALHOS                 SECTION.
*=====*

ADD       1                       TO      ACUM-PAG.
MOVE     ACUM-PAG                 TO      CAB001-PAG.
WRITE    REG-RELATO              FROM    CAB001  AFTER  PAGE.
PERFORM   001-04-FS-RELATO.
WRITE    REG-RELATO              FROM    CAB002  AFTER  1.
PERFORM   001-04-FS-RELATO.
WRITE    REG-RELATO              FROM    CAB003  AFTER  2.
PERFORM   001-04-FS-RELATO.
WRITE    REG-RELATO              FROM    CAB004  AFTER  2.
PERFORM   001-04-FS-RELATO.
WRITE    REG-RELATO              FROM    CAB005  AFTER  1.
PERFORM   001-04-FS-RELATO.
WRITE    REG-RELATO              FROM    CAB006  AFTER  1.
PERFORM   001-04-FS-RELATO.
WRITE    REG-RELATO              FROM    CAB004  AFTER  1.

PERFORM   001-04-FS-RELATO.
MOVE     SPACES                  TO      REG-RELATO.
WRITE    REG-RELATO              AFTER   1.
PERFORM   001-04-FS-RELATO.
MOVE     10                      TO      ACUM-LINHAS.
004-02-FIM.                       EXIT.

*=====*
004-03-QUEBRA-CONTA              SECTION.
*=====*

MOVE     FS-GRAVACAO             TO      FS-OPERACAO.
IF      ACUM-LINHAS  GREATER  58
  PERFORM 004-02-CABECALHOS
END-IF.
MOVE     WS-CONTA-ANT            TO      TOT001-CONTA
                                           CONTA-CTA.

```

```

MOVE    ACUM-QTD-CTA           TO      TOT001-QTD
                                           QTD-CTA.

MOVE    ACUM-VLR-CTA           TO      TOT001-VALOR
                                           VALOR-CTA.

WRITE   REG-RELATO             FROM    TOT001  AFTER  2.

PERFORM      001-04-FS-RELATO.

MOVE    SPACES                 TO      REG-RELATO.

WRITE   REG-RELATO             AFTER   1.

PERFORM      001-04-FS-RELATO.

ADD     3                      TO      ACUM-LINHAS.

WRITE   REG-CADCONTA.

MOVE    FS-GRAVACAO           TO      FS-OPERACAO.

PERFORM      001-03-FS-CADCONTA.

004-03-FIM.                      EXIT.

=====
005-00-IMPRIMIR-TOTAIS          SECTION.
=====

PERFORM      004-03-QUEBRA-CONTA.

IF ACUM-LINHAS    GREATER    56
  PERFORM 004-02-CABECALHOS
END-IF.

MOVE    ACUM-QTD-GER           TO      TOT002-QTD.

MOVE    ACUM-VLR-GER           TO      TOT002-VALOR.

WRITE   REG-RELATO             FROM    TOT002  AFTER  1.

MOVE    FS-GRAVACAO           TO      FS-OPERACAO.

PERFORM      001-04-FS-RELATO.

005-00-FIM.                      EXIT.

=====
006-00-DISPLAY-OK              SECTION.
=====

DISPLAY '***** EXER0011 *****'
DISPLAY '*                                     *'
DISPLAY '*          PROGRAMA ENCERRADO          *'
DISPLAY '*                                     *'
DISPLAY '*          COM SUCESSO                  *'
DISPLAY '*                                     *'
DISPLAY '***** EXER0011 *****'.

006-00-FIM.                      EXIT.

=====
007-00-FECHAR-ARQUIVOS        SECTION.
=====

MOVE    FS-FECHAMENTO          TO      FS-OPERACAO.

CLOSE   CADMAT
        CADCONTA
        RELATO.

PERFORM      001-01-TESTAR-FS.

```

007-00-FIM.

EXIT.

```
=====*
```

900-00-ERRO SECTION.

```
=====*
```

```
DISPLAY '***** EXER0011 *****'
DISPLAY '* *'
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY '* *'
DISPLAY '* FILE STATUS = ' FS-COD-STATUS
' *'
DISPLAY '* *'
DISPLAY '* PROGRAMA ENCERRADO'
' *'
DISPLAY '* *'
DISPLAY '***** EXER0011 *****'
STOP RUN.
```

900-00-FIM.

EXIT.

12 Exercício 12 – EXER0012

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0012.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* EMITE RELATORIO ANALITICO DE MATERIAIS
* GERA CADASTRO DE MATERIAIS ATUALIZADO (CADMATU)
* CADASTRO DE CONTA ATUAL (CADCONTA)
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
    SELECT CADMAT ASSIGN TO UT-S-CADMAT
           FILE STATUS IS FS-CADMAT.
*
    SELECT CADMATU ASSIGN TO UT-S-CADMATU
           FILE STATUS IS FS-CADMATU.
*
    SELECT CADCONTA ASSIGN TO UT-S-CADCONTA
           FILE STATUS IS FS-CADCONTA.
*
    SELECT RELATO ASSIGN TO UR-S-RELATO
           FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CADMAT
RECORD CONTAINS 50 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADMAT.
01 REG-CADMAT.
05 COD-MAT PIC 9(05).
05 NOME-MAT PIC X(20).
05 QTD-MAT PIC S9(05).
05 VLR-UNIT PIC S9(05)V99.
05 CONTA-MAT PIC X(10).
05 FILLER PIC X(03).
*
FD CADMATU
RECORD CONTAINS 50 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADMATU.
01 REG-CADMATU.
05 COD-ATU PIC 9(05).
05 QTD-ATU PIC S9(05).
05 VLR-ATU PIC S9(05)V99.
05 TOT-ATU PIC S9(07)V99.
05 PERC-ATU PIC 9(03).
05 FILLER PIC X(21).
*
FD CADCONTA
RECORD CONTAINS 30 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADCONTA.
01 REG-CADCONTA.
05 CONTA-CTA PIC X(10).
05 QTD-CTA PIC S9(06).
05 VALOR-CTA PIC S9(11)V99.
05 FILLER PIC X(01).
*
FD RELATO
RECORD CONTAINS 86 CHARACTERS
RECORDING MODE IS F

```

```

      LABEL      RECORD      IS  OMITTED
      DATA      RECORD      IS  REG-RELATO.
01  REG-RELATO.
      05  FILLER                                PIC  X(86) .
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01  WS-DATA-HORARIO-SYS.
      05  WS-DATA-SYS.
            10  WS-ANO-SYS                      PIC  9(04)  VALUE ZEROS.
            10  WS-MES-SYS                      PIC  9(02)  VALUE ZEROS.
            10  WS-DIA-SYS                      PIC  9(02)  VALUE ZEROS.
      05  WS-HORARIO-SYS.
            10  WS-HORA-SYS                     PIC  9(02)  VALUE ZEROS.
            10  WS-MINUTO-SYS                  PIC  9(02)  VALUE ZEROS.
      05  FILLER                                PIC  X(09)  VALUE SPACES.
*
* AREA PARA DEFINIR ACUMULADORES
*
77  ACUM-LINHAS                                PIC  9(02)  VALUE 99.
77  ACUM-PAG                                  PIC  9(05)  VALUE ZEROS.
77  ACUM-QTD-CTA                              PIC  9(06)  VALUE ZEROS.
77  ACUM-QTD-GER                              PIC  9(07)  VALUE ZEROS.
77  ACUM-VLR-CTA                              PIC  9(11)V99 VALUE ZEROS.
77  ACUM-VLR-GER                              PIC  9(11)V99 VALUE ZEROS.
*
* AREAS PARA DEFINIR QUEBRAS
*
01  WS-CONTA-ANT                              PIC  X(10)  VALUE SPACES.
*
* AREAS PARA CALCULOS
*
01  WS-VALOR-TOTAL                            PIC  9(07)V99 VALUE 0.
01  WS-PERC                                    PIC  9(03)  VALUE ZEROS.
*
* AREA PARA DEFINIR FILE STATUS
*
77  FS-CADMAT                                  PIC  X(02)  VALUE SPACES.
77  FS-CADMATU                                 PIC  X(02)  VALUE SPACES.
77  FS-CADCONTA                               PIC  X(02)  VALUE SPACES.
77  FS-RELATO                                 PIC  X(02)  VALUE SPACES.
77  FS-COD-STATUS                             PIC  X(02)  VALUE SPACES.
77  FS-ARQUIVO                                PIC  X(08)  VALUE SPACES.
77  FS-OPERACAO                               PIC  X(13)  VALUE SPACES.
77  FS-ABERTURA                              PIC  X(13)  VALUE 'NA ABERTURA'.
77  FS-LEITURA                               PIC  X(13)  VALUE 'NA LEITURA'.
77  FS-GRAVACAO                              PIC  X(13)  VALUE 'NA GRAVACAO'.
77  FS-FECHAMENTO                             PIC  X(13)  VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01  CAB001.
      05  FILLER                                PIC  X(59)  VALUE
            'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
      05  CAB001-HORA                          PIC  99.
      05  FILLER                                PIC  X      VALUE ':'.
      05  CAB001-MINUTO                        PIC  99.
      05  FILLER                                PIC  X(11)  VALUE SPACES.
      05  FILLER                                PIC  X(06)  VALUE 'PAG.:'.
      05  CAB001-PAG                          PIC  Z.ZZ9.
*
01  CAB002.
      05  FILLER                                PIC  X(76)  VALUE
            'PROGRAMA = EXER0012'.
      05  CAB002-DIA                          PIC  99/.
      05  CAB002-MES                          PIC  99/.
      05  CAB002-ANO                          PIC  9999.
*
01  CAB003.
      05  FILLER                                PIC  X(20)  VALUE SPACES.
      05  FILLER                                PIC  X(66)  VALUE
            'RELATORIO ANALITICO DO CADASTRO DE MATERIAIS'.

```

```

*
01 CAB004.
05 FILLER PIC X(86) VALUE ALL '='.
*
01 CAB005.
05 FILLER PIC X(47) VALUE ' CODIGO'.
05 FILLER PIC X(36) VALUE 'PRECO'.
05 FILLER PIC X(03) VALUE '% '.
*
01 CAB006.
05 FILLER PIC X(12) VALUE 'MATERIAL'.
05 FILLER PIC X(20) VALUE
'NOME DO MATERIAL'.
05 FILLER PIC X(13) VALUE 'QUANTIDADE'.
05 FILLER PIC X(12) VALUE 'UNITARIO'.
05 FILLER PIC X(15) VALUE 'VALOR TOTAL'.
05 FILLER PIC X(09) VALUE 'CONTA'.
05 FILLER PIC X(05) VALUE 'VENDA'.
*
01 DET001.
05 FILLER PIC X(01) VALUE ' '.
05 DET001-MAT PIC 99.999.
05 FILLER PIC X(03) VALUE SPACES.
05 DET001-NOME PIC X(20).
05 FILLER PIC X(04) VALUE SPACES.
05 DET001-QTD PIC ZZ.ZZ9.
05 FILLER PIC X(04) VALUE SPACES.
05 DET001-PRECO PIC ZZ.ZZ9,99.
05 FILLER PIC X(03) VALUE SPACES.
05 DET001-VALOR PIC Z.ZZZ.ZZ9,99.
05 FILLER PIC X(02) VALUE SPACES.
05 DET001-CONTA PIC X(10).
05 FILLER PIC X(02) VALUE SPACES.
05 DET001-PERC PIC 9(03).
05 FILLER PIC X(01) VALUE ' '.
*
01 TOT001.
05 FILLER PIC X(20) VALUE
' * TOTAL DA CONTA'.
05 TOT001-CONTA PIC X(10).
05 FILLER PIC X(03) VALUE SPACES.
05 TOT001-QTD PIC ZZZ.ZZ9.
05 FILLER PIC X(11) VALUE SPACES.
05 TOT001-VALOR PIC ZZ.ZZZ.ZZZ.ZZ9,99.
05 FILLER PIC X(18) VALUE SPACES.
*
01 TOT002.
05 FILLER PIC X(31) VALUE
' ** TOTAL GERAL'.
05 TOT002-QTD PIC Z.ZZZ.ZZ9.
05 FILLER PIC X(11) VALUE SPACES.
05 TOT002-VALOR PIC ZZ.ZZZ.ZZZ.ZZ9,99.
05 FILLER PIC X(18) VALUE SPACES.

```

```

*
PROCEDURE DIVISION.

```

```

*=====*
000-00-INICIO SECTION.
*=====*

```

```

PERFORM 001-00-ABRIR-ARQUIVOS.
PERFORM 002-00-OBTER-DATA.
PERFORM 003-00-VER-ARQ-VAZIO.
PERFORM 004-00-TRATAR-CADMAT UNTIL
FS-CADMAT EQUAL '10'.
PERFORM 005-00-IMPRIMIR-TOTAIS.
PERFORM 006-00-FECHAR-ARQUIVOS.
PERFORM 007-00-DISPLAY-OK.

```



```

STOP      RUN.

=====
001-00-ABRIR-ARQUIVOS          SECTION.
=====

MOVE      FS-ABERTURA          TO      FS-OPERACAO.

OPEN      INPUT  CADMAT
          OUTPUT CADCONTA
          CADMATU
          RELATO.

PERFORM   001-01-TESTAR-FS.

001-00-FIM.                      EXIT.

=====
001-01-TESTAR-FS              SECTION.
=====

PERFORM   001-02-FS-CADMAT.

PERFORM   001-03-FS-CADMATU.

PERFORM   001-04-FS-CADCONTA.

PERFORM   001-05-FS-RELATO.

001-01-FIM.                      EXIT.

=====
001-02-FS-CADMAT              SECTION.
=====

MOVE      'CADMAT'              TO      FS-ARQUIVO.

MOVE      FS-CADMAT              TO      FS-COD-STATUS.

IF  FS-CADMAT      NOT EQUAL  '00' AND '10'
   PERFORM  900-00-ERRO
END-IF.

001-02-FIM.                      EXIT.

=====
001-03-FS-CADMATU             SECTION.
=====

MOVE      'CADMATU'              TO      FS-ARQUIVO.

MOVE      FS-CADMATU              TO      FS-COD-STATUS.

IF  FS-CADMATU      NOT EQUAL  '00' AND '10'
   PERFORM  900-00-ERRO
END-IF.

001-03-FIM.                      EXIT.

=====
001-04-FS-CADCONTA           SECTION.
=====

MOVE      'CADCONTA'              TO      FS-ARQUIVO.

MOVE      FS-CADCONTA              TO      FS-COD-STATUS.

IF  FS-CADCONTA      NOT EQUAL  '00' AND '10'
   PERFORM  900-00-ERRO
END-IF.

001-04-FIM.                      EXIT.

```

```

=====
001-05-FS-RELATO                SECTION.
=====
MOVE      'RELATO'                TO      FS-ARQUIVO.

MOVE      FS-RELATO               TO      FS-COD-STATUS.

IF  FS-RELATO      NOT EQUAL  '00' AND '10'
   PERFORM  900-00-ERRO
END-IF.

001-05-FIM.                      EXIT.

=====
002-00-OBTER-DATA              SECTION.
=====
MOVE      FUNCTION CURRENT-DATE   TO      WS-DATA-HORARIO-SYS.

MOVE      WS-HORA-SYS             TO      CAB001-HORA.

MOVE      WS-MINUTO-SYS           TO      CAB001-MINUTO.

MOVE      WS-DIA-SYS              TO      CAB002-DIA.

MOVE      WS-MES-SYS              TO      CAB002-MES.

MOVE      WS-ANO-SYS              TO      CAB002-ANO.

002-00-FIM.                      EXIT.

=====
003-00-VER-ARQ-VAZIO          SECTION.
=====
PERFORM      003-01-LER-CADMAT.

IF  FS-CADMAT      EQUAL      '10'
   DISPLAY '***** EXER0012 *****'
   DISPLAY '*
   DISPLAY '*          ARQUIVO CADMAT VAZIO          *
   DISPLAY '*
   DISPLAY '*          PROGRAMA CANCELADO          *
   DISPLAY '*
   DISPLAY '***** EXER0012 *****'
   PERFORM 006-00-FECHAR-ARQUIVOS
   STOP    RUN
END-IF.

MOVE      CONTA-MAT              TO      WS-CONTA-ANT.

003-00-FIM.                      EXIT.

=====
003-01-LER-CADMAT            SECTION.
=====
MOVE      FS-LEITURA            TO      FS-OPERACAO.

READ      CADMAT

IF  FS-CADMAT      NOT EQUAL  '10'
   PERFORM 001-02-FS-CADMAT
END-IF.

003-01-FIM.                      EXIT.

=====
004-00-TRATAR-CADMAT        SECTION.
=====
MOVE      FS-GRAVACAO            TO      FS-OPERACAO.

```

```

IF  CONTA-MAT      NOT EQUAL  WS-CONTA-ANT
   PERFORM 004-03-QUEBRA-CONTA
   MOVE    CONTA-MAT      TO      WS-CONTA-ANT
   MOVE    ZEROS          TO      ACUM-QTD-CTA
                                   ACUM-VLR-CTA
END-IF.

COMPUTE WS-VALOR-TOTAL = QTD-MAT * VLR-UNIT.

COMPUTE ACUM-QTD-CTA  = ACUM-QTD-CTA + QTD-MAT.

COMPUTE ACUM-VLR-CTA  = ACUM-VLR-CTA + WS-VALOR-TOTAL.

COMPUTE ACUM-QTD-GER  = ACUM-QTD-GER + QTD-MAT.

COMPUTE ACUM-VLR-GER  = ACUM-VLR-GER + WS-VALOR-TOTAL.

PERFORM      004-01-IMPRESSAO.

PERFORM      003-01-LER-CADMAT.

004-00-FIM.          EXIT.

*====*
004-01-IMPRESSAO      SECTION.
*====*

IF  ACUM-LINHAS      GREATER   59
   PERFORM 004-02-CABECALHOS
END-IF.

MOVE    COD-MAT      TO      DET001-MAT
                                   COD-ATU.

MOVE    NOME-MAT     TO      DET001-NOME.

MOVE    QTD-MAT      TO      DET001-QTD
                                   QTD-ATU.

MOVE    VLR-UNIT     TO      DET001-PRECO
                                   VLR-ATU.

MOVE    WS-VALOR-TOTAL TO      DET001-VALOR
                                   TOT-ATU.

MOVE    CONTA-MAT    TO      DET001-CONTA.

EVALUATE TRUE
  WHEN  COD-MAT NOT GREATER 10000
        MOVE  010 TO      DET001-PERC
                                   PERC-ATU

  WHEN  COD-MAT NOT GREATER 20000
        MOVE  015 TO      DET001-PERC
                                   PERC-ATU

  WHEN  COD-MAT NOT GREATER 30000
        MOVE  020 TO      DET001-PERC
                                   PERC-ATU

  WHEN  COD-MAT NOT GREATER 40000
        MOVE  025 TO      DET001-PERC
                                   PERC-ATU

  WHEN  OTHER
        MOVE  030 TO      DET001-PERC
                                   PERC-ATU
END-EVALUATE.

WRITE  REG-RELATO      FROM  DET001 AFTER 1.

PERFORM 001-05-FS-RELATO.

ADD    1 TO      ACUM-LINHAS.

WRITE  REG-CADMATU.

```

PERFORM 001-03-FS-CADMATU.

004-01-FIM. EXIT.

=====

004-02-CABECALHOS SECTION.

=====

```

ADD      1                TO      ACUM-PAG.
MOVE     ACUM-PAG         TO      CAB001-PAG.
WRITE    REG-RELATO       FROM    CAB001 AFTER PAGE.
PERFORM  001-05-FS-RELATO.
WRITE    REG-RELATO       FROM    CAB002 AFTER 1.
PERFORM  001-05-FS-RELATO.
WRITE    REG-RELATO       FROM    CAB003 AFTER 2.
PERFORM  001-05-FS-RELATO.
WRITE    REG-RELATO       FROM    CAB004 AFTER 2.
PERFORM  001-05-FS-RELATO.
WRITE    REG-RELATO       FROM    CAB005 AFTER 1.
PERFORM  001-05-FS-RELATO.
WRITE    REG-RELATO       FROM    CAB006 AFTER 1.
PERFORM  001-05-FS-RELATO.
WRITE    REG-RELATO       FROM    CAB004 AFTER 1.
PERFORM  001-05-FS-RELATO.
MOVE     SPACES           TO      REG-RELATO.
WRITE    REG-RELATO              AFTER 1.
PERFORM  001-05-FS-RELATO.
MOVE     10              TO      ACUM-LINHAS.

```

004-02-FIM. EXIT.

=====

004-03-QUEBRA-CONTA SECTION.

=====

```

MOVE     FS-GRAVACAO      TO      FS-OPERACAO.
IF ACUM-LINHAS GREATER 57
  PERFORM 004-02-CABECALHOS
END-IF.
MOVE     WS-CONTA-ANT     TO      TOT001-CONTA
CONTA-CTA.
MOVE     ACUM-QTD-CTA    TO      TOT001-QTD
QTD-CTA.
MOVE     ACUM-VLR-CTA    TO      TOT001-VALOR
VALOR-CTA.
WRITE    REG-RELATO       FROM    TOT001 AFTER 2.
PERFORM  001-05-FS-RELATO.

```

```

MOVE      SPACES                TO      REG-RELATO.

WRITE     REG-RELATO                AFTER  1.

PERFORM   001-05-FS-RELATO.

ADD       3                      TO      ACUM-LINHAS.

WRITE     REG-CADCONTA.

PERFORM   001-04-FS-CADCONTA.

004-03-FIM.                        EXIT.

*=====*
005-00-IMPRIMIR-TOTAIS              SECTION.
*=====*

PERFORM   004-05-QUEBRA-CONTA.

IF  ACUM-LINHAS    GREATER    59
   PERFORM 004-02-CABECALHOS
END-IF.

MOVE     ACUM-QTD-GER            TO      TOT002-QTD.

MOVE     ACUM-VLR-GER            TO      TOT002-VALOR.

WRITE    REG-RELATO              FROM    TOT002  AFTER  1.

PERFORM   001-05-FS-RELATO.

005-01-FIM.                        EXIT.

*=====*
006-00-FECHAR-ARQUIVOS              SECTION.
*=====*

MOVE     FS-FECHAMENTO            TO      FS-OPERACAO.

CLOSE    CADMAT
         CADMATU
         CADCONTA
         RELATO.

PERFORM   001-01-TESTAR-FS.

006-00-FIM.                        EXIT.

*=====*
007-00-DISPLAY-OK                   SECTION.
*=====*

DISPLAY  '***** EXER0012 *****'
DISPLAY  '*                                     *'
DISPLAY  '*          PROGRAMA ENCERRADO          *'
DISPLAY  '*                                     *'
DISPLAY  '*          COM SUCESSO                 *'
DISPLAY  '*                                     *'
DISPLAY  '***** EXER0012 *****'

007-00-FIM.                        EXIT.

*=====*
900-00-ERRO                          SECTION.
*=====*

DISPLAY  '***** EXER0012 *****'
DISPLAY  '*                                     *'
DISPLAY  '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY  '*                                     *'
DISPLAY  '* FILE STATUS = ' FS-COD-STATUS
         '                                     *'
DISPLAY  '*                                     *'
DISPLAY  '* PROGRAMA ENCERRADO'
         '                                     *'

```

```
DISPLAY '*'  
DISPLAY '***** EXER0012 *****'  
STOP RUN.
```

900-00-FIM.

EXIT.

13 Exercício 13 – EXER0013

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0013.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* EMITE RELATORIO DE FUNCIONARIOS POR SECAO
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
        DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
        SELECT CADFUNC ASSIGN TO UT-S-CADFUNC
        FILE STATUS IS FS-CADFUNC.
*
        SELECT RELATO ASSIGN TO UR-S-RELATO
        FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CADFUNC
RECORD CONTAINS 110 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADFUNC.
01 REG-CADFUNC.
05 CODIGO PIC 9(05).
05 NOME PIC X(30).
05 DT-NASC PIC 9(06).
05 DT-ADMIS PIC 9(06).
05 ENDER PIC X(30).
05 CEP PIC 9(08).
05 UF PIC X(02).
05 FILLER PIC X(04).
05 SALARIO PIC S9(07)V99.
05 DESCN PIC S9(07)V99.
05 SECAO PIC X(01).
*
FD RELATO
RECORD CONTAINS 67 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS OMITTED
DATA RECORD IS REG-RELATO.
01 REG-RELATO.
05 FILLER PIC X(67).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.
05 WS-DATA-SYS.
10 WS-ANO-SYS PIC 9(04) VALUE ZEROS.
10 WS-MES-SYS PIC 9(02) VALUE ZEROS.
10 WS-DIA-SYS PIC 9(02) VALUE ZEROS.
05 WS-HORARIO-SYS.
10 WS-HORA-SYS PIC 9(02) VALUE ZEROS.
10 WS-MINUTO-SYS PIC 9(02) VALUE ZEROS.
05 FILLER PIC X(09) VALUE SPACES.
*
* AREA PARA DEFINIR QUEBRAS
*
01 WS-SECAO-ANT PIC X(01) VALUE ' '.
*
* AREA PARA DEFINIR ACUMULADORES
*
77 ACUM-LINHAS PIC 9(02) VALUE 99.
77 ACUM-PAG PIC 9(03) VALUE ZEROS.

```

```

77 ACUM-FUN-SECAO          PIC 9(04)    VALUE ZEROS.
77 ACUM-SAL-SECAO         PIC 9(09)V99 VALUE ZEROS.
77 ACUM-FUN-TOTAL         PIC 9(05)    VALUE ZEROS.
77 ACUM-SAL-TOTAL         PIC 9(10)V99 VALUE ZEROS.
*
* AREA PARA DEFINIR CHAVES DE IMPRESSAO
*
01 WS-IMPR-SECAO          PIC 9(01) VALUE 0.
*
* AREA PARA DEFINIR FILE STATUS
*
77 FS-CADFUNC             PIC X(02) VALUE SPACES.
77 FS-RELATO              PIC X(02) VALUE SPACES.
77 FS-COD-STATUS          PIC X(02) VALUE SPACES.
77 FS-ARQUIVO             PIC X(08) VALUE SPACES.
77 FS-OPERACAO           PIC X(13) VALUE SPACES.
77 FS-ABERTURA           PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA            PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO           PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO          PIC X(13) VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01 CAB001.
05 FILLER                  PIC X(42) VALUE
   'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
05 CAB001-HORA             PIC 99.
05 FILLER                  PIC X(01) VALUE ':'.
05 CAB001-MINUTO          PIC 99.
05 FILLER                  PIC X(09) VALUE SPACES.
05 FILLER                  PIC X(06) VALUE 'PAG.: '.
05 CAB001-PAG             PIC Z.ZZ9.
*
01 CAB002.
05 FILLER                  PIC X(57) VALUE
   'PROGRAMA = EXER0013'.
05 CAB002-DIA             PIC 99/.
05 CAB002-MES             PIC 99/.
05 CAB002-ANO             PIC 9999.
*
01 CAB003.
05 FILLER                  PIC X(15) VALUE SPACES.
05 FILLER                  PIC X(52) VALUE
   'LISTAGEM DE FUNCIONARIOS POR SECAO'.
*
01 CAB004.
05 FILLER                  PIC X(32) VALUE
   ' SECAO CODIGO'.
05 FILLER                  PIC X(25) VALUE 'NOME'.
05 FILLER                  PIC X(10) VALUE 'SALARIO'.
*
01 DET001.
05 FILLER                  PIC X(05) VALUE SPACE.
05 DET001-SECAO          PIC X(01).
05 FILLER                  PIC X(04) VALUE SPACES.
05 DET001-CODIGO         PIC ZZ.ZZ9.
05 FILLER                  PIC X(04) VALUE SPACES.
05 DET001-NOME           PIC X(30).
05 FILLER                  PIC X(05) VALUE SPACES.
05 DET001-SALARIO        PIC Z.ZZZ.ZZ9,99.
*
01 TOT001.
05 FILLER                  PIC X(31) VALUE
   'TOTAL DE FUNCIONARIOS DA SECAO '.
05 TOT001-SECAO          PIC X(01).
05 FILLER                  PIC X(09) VALUE ' : '.
05 TOT001-FUNC           PIC Z.ZZ9.
05 FILLER                  PIC X(21) VALUE SPACES.
*
01 TOT002.
05 FILLER                  PIC X(35) VALUE
   'TOTAL DE SALARIOS PAGOS PELA SECAO '.
05 TOT002-SECAO          PIC X(01).

```



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05 FILLER                                PIC X(05) VALUE ' : '.
05 TOT002-SALARIO                         PIC ZZZ.ZZZ.ZZ9,99.
05 FILLER                                PIC X(12) VALUE SPACES.
*
01 TOT003.
05 FILLER                                PIC X(37) VALUE
   'TOTAL GERAL DE FUNCIONARIOS'.
05 FILLER                                PIC X(03) VALUE ' : '.
05 TOT003-FUNC                            PIC ZZ.ZZ9.
05 FILLER                                PIC X(21) VALUE SPACES.
*
01 TOT004.
05 FILLER                                PIC X(37) VALUE
   'TOTAL GERAL DE SALARIOS PAGOS'.
05 FILLER                                PIC X(02) VALUE ' : '.
05 TOT004-SALARIO                         PIC Z.ZZZ.ZZZ.ZZ9,99.
05 FILLER                                PIC X(12) VALUE SPACES.
*
PROCEDURE          DIVISION.

=====
000-00-INICIO          SECTION.
=====

    PERFORM          001-00-ABRIR-ARQUIVOS.

    PERFORM          002-00-OBTER-DATA-HORA.

    PERFORM          003-00-VER-ARQ-VAZIO.

    PERFORM          004-00-TRATAR-CADFUNC UNTIL
    FS-CADFUNC EQUAL '10'.

    PERFORM          005-00-IMPRIMIR-TOTAIS.

    PERFORM          006-00-FECHAR-ARQUIVOS.

    STOP          RUN.

000-00-FIM.          EXIT.

=====
001-00-ABRIR-ARQUIVOS          SECTION.
=====

    MOVE          FS-ABERTURA          TO          FS-OPERACAO.

    OPEN          INPUT          CADFUNC
    OUTPUT          RELATO.

    PERFORM          001-01-TESTAR-FS.

001-00-FIM.          EXIT.

=====
001-01-TESTAR-FS          SECTION.
=====

    PERFORM          001-02-FS-CADFUNC.

    PERFORM          001-03-FS-RELATO.

001-01-FIM.          EXIT.

=====
001-02-FS-CADFUNC          SECTION.
=====

    MOVE          'CADFUNC'          TO          FS-ARQUIVO.

    MOVE          FS-CADFUNC          TO          FS-COD-STATUS.

    IF          FS-CADFUNC          NOT EQUAL          '00' AND '10'
    PERFORM          900-00-ERRO

```

```

END-IF.

001-02-FIM.                                EXIT.

=====
001-03-FS-RELATO                          SECTION.
=====

MOVE   'RELATO'                            TO     FS-ARQUIVO.
MOVE   FS-RELATO                           TO     FS-COD-STATUS.

IF FS-COD-STATUS NOT EQUAL '00' AND '10'
    PERFORM 900-00-ERRO
END-IF.

001-03-FIM.                                EXIT.

=====
002-00-OBTER-DATA-HORA                    SECTION.
=====

MOVE   FUNCTION CURRENT-DATE              TO     WS-DATA-HORARIO-SYS.
MOVE   WS-HORA-SYS                        TO     CAB001-HORA.
MOVE   WS-MINUTO-SYS                      TO     CAB001-MINUTO.
MOVE   WS-DIA-SYS                         TO     CAB002-DIA.
MOVE   WS-MES-SYS                         TO     CAB002-MES.
MOVE   WS-ANO-SYS                         TO     CAB002-ANO.

002-00-FIM.                                EXIT.

=====
003-00-VER-ARQ-VAZIO                      SECTION.
=====

PERFORM 003-01-LER-CADFUNC.

IF FS-CADFUNC EQUAL '10'
    DISPLAY '***** EXER0013 *****'
    DISPLAY '*
    DISPLAY '*          ARQUIVO CADFUNC VAZIO          *
    DISPLAY '*
    DISPLAY '*          PROGRAMA CANCELADO            *
    DISPLAY '*
    DISPLAY '***** EXER0013 *****'
    PERFORM 006-00-FECHAR-ARQUIVOS
    STOP RUN
END-IF.

MOVE   SECAO                              TO     WS-SECAO-ANT.

003-00-FIM.                                EXIT.

=====
003-01-LER-CADFUNC                        SECTION.
=====

MOVE   FS-LEITURA                        TO     FS-OPERACAO.

READ   CADFUNC.

IF FS-CADFUNC NOT EQUAL '10'
    PERFORM 001-02-FS-CADFUNC
END-IF.

003-01-FIM.                                EXIT.

=====
004-00-TRATAR-CADFUNC                    SECTION.

```

```

MOVE      FS-GRAVACAO          TO      FS-OPERACAO.

IF  SECAO          NOT EQUAL  WS-SECAO-ANT
   PERFORM 004-03-QUEBRA-SECAO
   MOVE    ZEROS          TO      ACUM-FUN-SECAO
                                       ACUM-SAL-SECAO
   MOVE    SECAO          TO      WS-SECAO-ANT
END-IF.

ADD      1          TO      ACUM-FUN-SECAO
                                       ACUM-FUN-TOTAL.

ADD      SALARIO          TO      ACUM-SAL-SECAO
                                       ACUM-SAL-TOTAL.

PERFORM      004-01-IMPRESSAO.

PERFORM      003-01-LER-CADFUNC.

004-00-FIM.          EXIT.

```

004-01-IMPRESSAO SECTION.

```

IF  ACUM-LINHAS      GREATER  59
   PERFORM 004-02-CABECALHOS
END-IF.

IF  WS-IMPR-SECAO    EQUAL    0
   MOVE    SECAO          TO      DET001-SECAO
   MOVE    1          TO      WS-IMPR-SECAO
ELSE
   MOVE    ' '          TO      DET001-SECAO
END-IF.

MOVE    CODIGO          TO      DET001-CODIGO.

MOVE    NOME            TO      DET001-NOME.

MOVE    SALARIO         TO      DET001-SALARIO.

WRITE   REG-RELATO          FROM  DET001      AFTER  1.

PERFORM      001-03-FS-RELATO.

ADD      1          TO      ACUM-LINHAS.

004-01-FIM.          EXIT.

```

004-02-CABECALHOS SECTION.

```

ADD      1          TO      ACUM-PAG.

MOVE    ACUM-PAG          TO      CAB001-PAG.

WRITE   REG-RELATO          FROM  CAB001      AFTER  PAGE.

PERFORM      001-03-FS-RELATO.

WRITE   REG-RELATO          FROM  CAB002      AFTER  1.

PERFORM      001-03-FS-RELATO.

WRITE   REG-RELATO          FROM  CAB003      AFTER  2.

PERFORM      001-03-FS-RELATO.

WRITE   REG-RELATO          FROM  CAB004      AFTER  2.

```

```

PERFORM      001-03-FS-RELATO.

MOVE      SPACES                TO      REG-RELATO.

WRITE      REG-RELATO                AFTER      1.

PERFORM      001-03-FS-RELATO.

MOVE      7                      TO      ACUM-LINHAS.

MOVE      0                      TO      WS-IMPR-SECAO.

004-02-FIM.                EXIT.

*=====*
004-03-QUEBRA-SECAO        SECTION.
*=====*

MOVE      FS-GRAVACAO            TO      FS-OPERACAO.

MOVE      WS-SECAO-ANT            TO      TOT001-SECAO
                                         TOT002-SECAO.

MOVE      ACUM-FUN-SECAO          TO      TOT001-FUNC.

MOVE      ACUM-SAL-SECAO          TO      TOT002-SALARIO.

WRITE      REG-RELATO            FROM      TOT001  AFTER      2.

PERFORM      001-03-FS-RELATO.

WRITE      REG-RELATO            FROM      TOT002  AFTER      1.

PERFORM      001-03-FS-RELATO.

MOVE      99                    TO      ACUM-LINHAS.

004-03-FIM.                EXIT.

*=====*
005-00-IMPRIMIR-TOTAIS    SECTION.
*=====*

MOVE      FS-GRAVACAO            TO      FS-OPERACAO.

MOVE      WS-SECAO-ANT            TO      TOT001-SECAO
                                         TOT002-SECAO.

MOVE      ACUM-FUN-SECAO          TO      TOT001-FUNC.

MOVE      ACUM-SAL-SECAO          TO      TOT002-SALARIO.

WRITE      REG-RELATO            FROM      TOT001  AFTER      2.

PERFORM      001-03-FS-RELATO.

WRITE      REG-RELATO            FROM      TOT002  AFTER      1.

PERFORM      001-03-FS-RELATO.

MOVE      ACUM-FUN-TOTAL          TO      TOT003-FUNC.

MOVE      ACUM-SAL-TOTAL          TO      TOT004-SALARIO.

WRITE      REG-RELATO            FROM      TOT003  AFTER      2.

PERFORM      001-03-FS-RELATO.

WRITE      REG-RELATO            FROM      TOT004  AFTER      1.

PERFORM      001-03-FS-RELATO.

```

```
005-00-FIM.                                EXIT.

*=====*
006-00-FECHAR-ARQUIVOS                     SECTION.
*=====*

MOVE    FS-FECHAMENTO                       TO    FS-OPERACAO.

CLOSE   CADFUNC
        RELATO.

PERFORM 001-01-TESTAR-FS.

006-00-FIM.                                EXIT.

*=====*
900-00-ERRO                                SECTION.
*=====*

DISPLAY '***** EXER0013 *****'
DISPLAY '*                                     *'
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY '*                                     *'
DISPLAY '* FILE STATUS = ' FS-COD-STATUS
        '*
DISPLAY '*                                     *'
DISPLAY '* PROGRAMA ENCERRADO'
        '*
DISPLAY '*                                     *'
DISPLAY '***** EXER0013 *****'
STOP    RUN.

900-00-FIM.                                EXIT.
```

14 Exercício 14 – EXER0014

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0014.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* EMITE RELATORIO DE PRODUTOS
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
        DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
        SELECT CADPRO ASSIGN TO UT-S-CADPRO
        FILE STATUS IS FS-CADPRO.
*
        SELECT RELATO ASSIGN TO UR-S-RELATO
        FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CADPRO
RECORD CONTAINS 30 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADPRO.
01 REG-CADPRO.
05 PRODUTO PIC X(05).
05 SUB-PRODUTO PIC X(05).
05 PECA PIC X(05).
05 CUSTO PIC 9(07)V99.
05 FILLER PIC X(06).
*
FD RELATO
RECORD CONTAINS 52 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS OMITTED
DATA RECORD IS REG-RELATO.
01 REG-RELATO.
05 FILLER PIC X(52).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.
05 WS-DATA-SYS.
10 WS-ANO-SYS PIC 9(04) VALUE ZEROS.
10 WS-MES-SYS PIC 9(02) VALUE ZEROS.
10 WS-DIA-SYS PIC 9(02) VALUE ZEROS.
05 WS-HORARIO-SYS.
10 WS-HORA-SYS PIC 9(02) VALUE ZEROS.
10 WS-MINUTO-SYS PIC 9(02) VALUE ZEROS.
05 FILLER PIC X(09) VALUE SPACES.
*
* AREA PARA DEFINIR QUEBRAS
*
01 WS-PRODUTO-ANT PIC X(05) VALUE SPACES.
01 WS-SUBPROD-ANT PIC X(05) VALUE SPACES.
*
* AREA PARA DEFINIR ACUMULADORES
*
77 ACUM-LINHAS PIC 9(02) VALUE 99.
77 ACUM-PAG PIC 9(03) VALUE 000.
77 ACUM-PROD PIC 9(08)V99 VALUE ZEROS.
77 ACUM-SUBPROD PIC 9(08)V99 VALUE ZEROS.
*
* AREA PARA DEFINIR CHAVES DE IMPRESSAO
*

```

```

01 WS-PROD                PIC 9(01) VALUE 0.
01 WS-SUBPROD             PIC 9(01) VALUE 0.
01 WS-SALTO               PIC 9(01) VALUE 0.
*
* AREA PARA DEFINIR FILE STATUS
*
77 FS-CADPRO              PIC X(02) VALUE SPACES.
77 FS-RELATO              PIC X(02) VALUE SPACES.
77 FS-COD-STATUS         PIC X(02) VALUE SPACES.
77 FS-ARQUIVO            PIC X(08) VALUE SPACES.
77 FS-OPERACAO           PIC X(13) VALUE SPACES.
77 FS-ABERTURA          PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA           PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO           PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO         PIC X(13) VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01 CAB001.
05 FILLER                 PIC X(41) VALUE
   'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
05 FILLER                 PIC X(06) VALUE 'PAG.:'.
05 CAB001-PAG             PIC Z.ZZ9.
*
01 CAB002.
05 FILLER                 PIC X(42) VALUE
   'PROGRAMA = EXER0014'.
05 CAB002-DIA             PIC 99/.
05 CAB002-MES             PIC 99/.
05 CAB002-ANO             PIC 9999.
*
01 CAB003.
05 FILLER                 PIC X(08) VALUE SPACES.
05 FILLER                 PIC X(44) VALUE
   'SUMARIZACAO DO CADASTRO DE PRODUTOS'.
*
01 CAB004.
05 FILLER                 PIC X(13) VALUE ' CODIGO'.
05 FILLER                 PIC X(14) VALUE 'CODIGO'.
05 FILLER                 PIC X(17) VALUE 'CODIGO'.
05 FILLER                 PIC X(08) VALUE 'CUSTO'.
*
01 CAB005.
05 FILLER                 PIC X(11) VALUE 'PRODUTO'.
05 FILLER                 PIC X(17) VALUE 'SUBPRODUTO'.
05 FILLER                 PIC X(14) VALUE 'PECA'.
05 FILLER                 PIC X(10) VALUE 'UNITARIO'.
*
01 DET001.
05 FILLER                 PIC X      VALUE SPACE.
05 DET001-PROD           PIC X(05).
05 FILLER                 PIC X(08) VALUE SPACES.
05 DET001-SUBPROD       PIC X(05).
05 FILLER                 PIC X(09) VALUE SPACES.
05 DET001-PECA          PIC X(05).
05 FILLER                 PIC X(07) VALUE SPACES.
05 DET001-CUSTO         PIC Z.ZZZ.ZZ9,99.
*
01 TOT001.
05 FILLER                 PIC X(28) VALUE
   '* TOTAL CODIGO SUBPRODUTO'.
05 TOT001-SUBPROD       PIC X(05).
05 FILLER                 PIC X(06) VALUE SPACES.
05 TOT001-CUSTO         PIC ZZ.ZZZ.ZZ9,99.
*
01 TOT002.
05 FILLER                 PIC X(28) VALUE
   '** TOTAL CODIGO PRODUTO'.
05 TOT002-PRODUTO       PIC X(05).
05 FILLER                 PIC X(03) VALUE SPACES.
05 TOT002-CUSTO         PIC Z.ZZZ.ZZZ.ZZ9,99.
*
PROCEDURE                DIVISION.
*****

```

```

000-00-INICIANDO                SECTION.
=====
PERFORM      001-00-ABRIR-ARQUIVOS.

PERFORM      002-00-OBTER-DATA.

PERFORM      003-00-VER-ARQ-VAZIO.

PERFORM      004-00-TRATAR-CADPRO  UNTIL
FS-CADPRO    EQUAL  '10'.

PERFORM      005-00-IMPRIMIR-TOTAIS.

PERFORM      006-00-FECHAR-ARQUIVOS.

PERFORM      007-00-DISPLAY-OK.

STOP        RUN.

=====
001-00-ABRIR-ARQUIVOS          SECTION.
=====
MOVE        FS-ABERTURA          TO      FS-OPERACAO.

OPEN        INPUT  CADPRO
           OUTPUT RELATO.

PERFORM      001-01-TESTAR-FS.

001-00-FIM.          EXIT.

=====
001-01-TESTAR-FS              SECTION.
=====
PERFORM      001-02-FS-CADPRO.

PERFORM      001-03-FS-RELATO.

001-01-FIM.          EXIT.

=====
001-02-FS-CADPRO              SECTION.
=====
MOVE        'CADPRO'              TO      FS-ARQUIVO.

MOVE        FS-CADPRO              TO      FS-COD-STATUS.

IF  FS-CADPRO    NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-02-FIM.          EXIT.

=====
001-03-FS-RELATO              SECTION.
=====
MOVE        'RELATO'              TO      FS-ARQUIVO.

MOVE        FS-RELATO              TO      FS-COD-STATUS.

IF  FS-RELATO    NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.

001-03-FIM.          EXIT.

=====
002-00-OBTER-DATA            SECTION.
=====

```



```

MOVE      FUNCTION CURRENT-DATE      TO      WS-DATA-HORARIO-SYS.

MOVE      WS-DIA-SYS                  TO      CAB002-DIA.

MOVE      WS-MES-SYS                  TO      CAB002-MES.

MOVE      WS-ANO-SYS                  TO      CAB002-ANO.

002-00-FIM.                            EXIT.

*====*
003-00-VER-ARQ-VAZIO                    SECTION.
*====*

PERFORM   003-01-LER-CADPRO.

IF  FS-CADPRO      EQUAL      '10'
  DISPLAY '***** EXER0014 *****'
  DISPLAY '*'
  DISPLAY '*          ARQUIVO CADPRO VAZIO          *'
  DISPLAY '*'
  DISPLAY '*          PROGRAMA CANCELADO          *'
  DISPLAY '*'
  DISPLAY '***** EXER0014 *****'
  PERFORM 006-00-FECHAR-ARQUIVOS
  STOP   RUN
END-IF.

MOVE      PRODUTO                    TO      WS-PRODUTO-ANT

MOVE      SUB-PRODUTO                TO      WS-SUBPROD-ANT

MOVE      1                          TO      WS-PROD
                                         WS-SUBPROD.

003-00-FIM.                            EXIT.

*====*
003-01-LER-CADPRO                    SECTION.
*====*

MOVE      FS-LEITURA                TO      FS-OPERACAO.

READ      CADPRO.

IF  FS-CADPRO      NOT EQUAL      '10'
  PERFORM 001-02-FS-CADPRO
END-IF.

003-01-FIM.                            EXIT.

*====*
004-00-TRATAR-CADPRO                SECTION.
*====*

MOVE      FS-GRAVACAO                TO      FS-OPERACAO.

IF  PRODUTO      NOT EQUAL      WS-PRODUTO-ANT
  MOVE      1                          TO      WS-SALTO
  PERFORM 004-03-QUEBRA-PRODUTO
  MOVE      ZEROS                      TO      ACUM-SUBPROD
                                         ACUM-PROD
  MOVE      PRODUTO                    TO      WS-PRODUTO-ANT
  MOVE      SUB-PRODUTO                TO      WS-SUBPROD-ANT
ELSE
  IF  SUB-PRODUTO NOT EQUAL      WS-SUBPROD-ANT
    MOVE      0                          TO      WS-SALTO
    PERFORM 004-04-QUEBRA-SUBPRODUTO
    MOVE      ZEROS                      TO      ACUM-SUBPROD
    MOVE      SUB-PRODUTO                TO      WS-SUBPROD-ANT
  END-IF
END-IF.

```

```

COMPUTE ACUM-PROD      = ACUM-PROD      + CUSTO.

COMPUTE ACUM-SUBPROD  = ACUM-SUBPROD  + CUSTO.

PERFORM      004-01-IMPRESSAO.

PERFORM      003-01-LER-CADPRO.

004-00-FIM.                                EXIT.

*=====*
004-01-IMPRESSAO                            SECTION.
*=====*

IF ACUM-LINHAS      GREATER      59
  PERFORM      004-02-CABECALHOS
END-IF.

IF WS-PROD          EQUAL      1
  MOVE      PRODUTO      TO      DET001-PROD
  MOVE      0            TO      WS-PROD
ELSE
  MOVE      SPACES      TO      DET001-PROD
END-IF.

IF WS-SUBPROD      EQUAL      1
  MOVE      SUB-PRODUTO  TO      DET001-SUBPROD
  MOVE      0            TO      WS-SUBPROD
ELSE
  MOVE      SPACES      TO      DET001-SUBPROD
END-IF.

MOVE      PECA      TO      DET001-PECA.

MOVE      CUSTO      TO      DET001-CUSTO.

WRITE      REG-RELATO      FROM      DET001  AFTER  1.

PERFORM      001-03-FS-RELATO.

ADD      1            TO      ACUM-LINHAS.

004-01-FIM.                                EXIT.

*=====*
004-02-CABECALHOS                            SECTION.
*=====*

ADD      1            TO      ACUM-PAG.

MOVE      ACUM-PAG      TO      CAB001-PAG.

WRITE      REG-RELATO      FROM      CAB001  AFTER  PAGE.

PERFORM      001-03-FS-RELATO.

WRITE      REG-RELATO      FROM      CAB002  AFTER  1.

PERFORM      001-03-FS-RELATO.

WRITE      REG-RELATO      FROM      CAB003  AFTER  2.

PERFORM      001-03-FS-RELATO.

WRITE      REG-RELATO      FROM      CAB004  AFTER  2.

PERFORM      001-03-FS-RELATO.

WRITE      REG-RELATO      FROM      CAB005  AFTER  1.

PERFORM      001-03-FS-RELATO.

MOVE      SPACES      TO      REG-RELATO.

```

```

WRITE REG-RELATO AFTER 1.

PERFORM 001-03-FS-RELATO.

MOVE 8 TO ACUM-LINHAS.

004-02-FIM. EXIT.

*====*
004-03-QUBRA-PRODUTO SECTION.
*====*

PERFORM 004-04-QUEBRA-SUBPRODUTO.

MOVE WS-PRODUTO-ANT TO TOT002-PRODUTO.

MOVE ACUM-PROD TO TOT002-CUSTO.

WRITE REG-RELATO FROM TOT002 AFTER 1.

PERFORM 001-03-FS-RELATO.

MOVE SPACES TO REG-RELATO.

WRITE REG-RELATO AFTER 1.

PERFORM 001-03-FS-RELATO.

ADD 2 TO ACUM-LINHAS.

MOVE 1 TO WS-PROD.

004-03-FIM. EXIT.

*====*
004-04-QUEBRA-SUBPRODUTO. SECTION.
*====*

MOVE WS-SUBPROD-ANT TO TOT001-SUBPROD.

MOVE ACUM-SUBPROD TO TOT001-CUSTO.

WRITE REG-RELATO FROM TOT001 AFTER 2.
PERFORM 001-03-FS-RELATO.

IF WS-SALTO EQUAL 0
  MOVE SPACES TO REG-RELATO
  WRITE REG-RELATO AFTER 1
  PERFORM 001-03-FS-RELATO
  ADD 3 TO ACUM-LINHAS
ELSE
  ADD 2 TO ACUM-LINHAS
END-IF.

MOVE 1 TO WS-SUBPROD.

004-04-FIM. EXIT.

*====*
005-00-IMPRIMIR-TOTAIS SECTION.
*====*

MOVE 1 TO WS-SALTO.

PERFORM 004-03-QUEBRA-PRODUTO.

005-00-FIM. EXIT.

*====*
006-00-FECHAR-ARQUIVOS SECTION.
*====*

MOVE FS-FECHAMENTO TO FS-OPERACAO.

```

```
CLOSE    CADPRO
          RELATO.

PERFORM  001-01-TESTAR-FS.

006-00-FIM.                                EXIT.

*====*
007-00-DISPLAY-OK                          SECTION.
*====*

DISPLAY '***** EXER0014 *****'
DISPLAY '*                                     *'
DISPLAY '*          PROGRAMA ENCERRADO          *'
DISPLAY '*                                     *'
DISPLAY '*          COM SUCESSO                   *'
DISPLAY '*                                     *'
DISPLAY '***** EXER0014 *****'

007-00-FIM.                                EXIT.

*====*
900-00-ERRO                                SECTION.
*====*

DISPLAY '***** EXER0014 *****'
DISPLAY '*                                     *'
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY '*                                     *'
DISPLAY '* FILE STATUS = ' FS-COD-STATUS
          '*                                     *'
DISPLAY '*                                     *'
DISPLAY '* PROGRAM A ENCERRADO'
          '*                                     *'
DISPLAY '*                                     *'
DISPLAY '***** EXER0014 *****'
STOP    RUN.

900-00-FIM.                                EXIT.
```

15 Exercício 15 – EXER0015

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0015.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* EMITE RELATORIO DA MOVIMENTACAO DO ARQUIVO DE FUNCIONARIOS
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
        DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
        SELECT CADFUNC ASSIGN TO UT-S-CADFUNC
        FILE STATUS IS FS-CADFUNC.
*
        SELECT FUNCINCO ASSIGN TO UT-S-FUNCINCO
        FILE STATUS IS FS-FUNCINCO.
*
        SELECT FUNCOK ASSIGN TO UT-S-FUNCOK
        FILE STATUS IS FS-FUNCOK.
*
        SELECT RELATO ASSIGN TO UR-S-RELATO
        FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CADFUNC
RECORD CONTAINS 110 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADFUNC.
01 REG-CADFUNC.
05 CODIGO.
10 COD PIC 9(05).
05 NOME PIC X(30).
05 FILLER PIC X(75).
*
FD FUNCINCO
RECORD CONTAINS 35 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-FUNCINCO.
01 REG-FUNCINCO.
05 COD-ERRO PIC X(05).
05 NOME-ERRO PIC X(30).
*
FD FUNCOK
RECORD CONTAINS 35 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-FUNCOK.
01 REG-FUNCOK.
05 COD-OK PIC X(05).
05 NOME-OK PIC X(30).
*
FD RELATO
LABEL RECORD IS OMITTED
RECORDING MODE IS F
RECORD CONTAINS 78 CHARACTERS
DATA RECORD IS REG-RELATO.
01 REG-RELATO.
05 FILLER PIC X(78).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.

```

```

05 WS-DATA-SYS.
   10 WS-ANO-SYS          PIC 9(04) VALUE ZEROS.
   10 WS-MES-SYS          PIC 9(02) VALUE ZEROS.
   10 WS-DIA-SYS          PIC 9(02) VALUE ZEROS.
05 WS-HORARIO-SYS.
   10 WS-HORA-SYS        PIC 9(02) VALUE ZEROS.
   10 WS-MINUTO-SYS      PIC 9(02) VALUE ZEROS.
05 FILLER                 PIC X(09) VALUE SPACES.
*
* AREA PARA DEFINIR ACUMULADORES
*
77 ACUM-LINHAS            PIC 9(02) VALUE 99.

77 ACUM-PAG              PIC 9(04) VALUE 0.
77 ACUM-LIDOS            PIC 9(06) VALUE 0.
77 ACUM-ERRADOS          PIC 9(06) VALUE 0.
77 ACUM-OK                PIC 9(06) VALUE 0.
*
* AREA PARA DEFINIR FILE STATUS
*
77 FS-CADFUNC            PIC X(02) VALUE SPACES.
77 FS-FUNCINCO           PIC X(02) VALUE SPACES.
77 FS-FUNCOK             PIC X(02) VALUE SPACES.
77 FS-RELATO             PIC X(02) VALUE SPACES.
77 FS-COD-STATUS         PIC X(02) VALUE SPACES.
77 FS-ARQUIVO            PIC X(08) VALUE SPACES.
77 FS-OPERACAO           PIC X(13) VALUE SPACES.
77 FS-ABERTURA           PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA           PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO           PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO         PIC X(13) VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR CHAVES DE IMPRESSAO
*
01 WS-IMPR-CODIGO        PIC 9(01) VALUE 0.
*
* AREA PARA DEFINIR CHAVE PARA REGISTRO OK
*
01 WS-OK                  PIC 9(01) VALUE 0.
*
* AREA PARA DEFINIR MENSAGENS
*
01 MSG01                  PIC X(30) VALUE
'CODIGO NAO NUMERICO     '.
01 MSG02                  PIC X(30) VALUE
'CODIGO IGUAL ZERO      '.
01 MSG03                  PIC X(30) VALUE
'NOME NAO PREENCHIDO   '.
01 MSG04                  PIC X(30) VALUE
'NOME NAO ALFABETICO   '.
01 MSG05                  PIC X(30) VALUE
'REGISTRO OK            '.
*
* AREAS EDITADAS
*
01 WS-LIDOS-ED            PIC ZZZ.ZZ9.
01 WS-ERRADOS-ED         PIC ZZZ.ZZ9.
01 WS-OK-ED              PIC ZZZ.ZZ9.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01 CAB001.
   05 FILLER                PIC X(49) VALUE
'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
   05 CAB001-HORA           PIC 99.
   05 FILLER                PIC X(01) VALUE ':'.
   05 CAB001-MINUTO        PIC 99.
   05 FILLER                PIC X(13) VALUE SPACES.
   05 FILLER                PIC X(06) VALUE 'PAG.: '.
   05 CAB001-PAG           PIC Z.ZZ9.
*
01 CAB002.
   05 FILLER                PIC X(68) VALUE

```

```

        'PROGRAMA = EXER0015'.
05 CAB002-DIA          PIC 99/.
05 CAB002-MES         PIC 99/.
05 CAB002-ANO         PIC 9999.
*
01 CAB003.
05 FILLER             PIC X(24) VALUE SPACES.
05 FILLER             PIC X(54) VALUE
        'RELATORIO DA MOVIMENTACAO'.
*
01 CAB004.
05 FILLER             PIC X(78) VALUE ' CODIGO'.
*
01 CAB005.
05 FILLER             PIC X(17) VALUE 'FUNCIONARIO'.
05 FILLER             PIC X(38) VALUE
        'NOME DO FUNCIONARIO'.
05 FILLER             PIC X(23) VALUE 'MENSAGEM'.
*
01 DET001.
05 FILLER             PIC X(03) VALUE SPACES.
05 DET001-CODIGO     PIC X(05).
05 FILLER             PIC X(05) VALUE SPACES.
05 DET001-NOME       PIC X(30).
05 FILLER             PIC X(05) VALUE SPACES.
05 DET001-MSG        PIC X(30).
*
01 TOT001.
05 FILLER             PIC X(36) VALUE
        '*** TOTAL DE REGISTROS LIDOS ==> '.
05 TOT001-LIDOS      PIC ZZZ.ZZ9.
05 FILLER             PIC X(35) VALUE SPACES.
*
01 TOT002.
05 FILLER             PIC X(36) VALUE
        '*** TOTAL DE REGISTROS COM ERRO ==> '.
05 TOT002-ERRADOS   PIC ZZZ.ZZ9.
05 FILLER             PIC X(35) VALUE SPACES.
*
01 TOT003.
05 FILLER             PIC X(36) VALUE
        '*** TOTAL DE REGISTROS OK ==> '.
05 TOT003-OK         PIC ZZZ.ZZ9.
05 FILLER             PIC X(35) VALUE SPACES.
*
PROCEDURE          DIVISION.
*=====*
000-00-INICIO          SECTION.
*=====*

        PERFORM          001-00-ABRIR-ARQUIVOS.

        PERFORM          002-00-OBTER-DATA-HORA.

        PERFORM          003-00-VER-ARQ-VAZIO.

        PERFORM          004-00-TRATAR-CADFUNC UNTIL
        FS-CADFUNC EQUAL '10'.

        PERFORM          005-00-IMPRIMIR-TOTAIS.

        PERFORM          006-00-FECHAR-ARQUIVOS.

        PERFORM          007-00-DISPLAY-OK.

        STOP          RUN.

*=====*
001-00-ABRIR-ARQUIVOS          SECTION.
*=====*

        MOVE          FS-ABERTURA          TO          FS-OPERACAO.

        OPEN          INPUT          CADFUNC

```

```

OUTPUT  FUNCINCO
        FUNCOK
        RELATO.

PERFORM 001-01-TESTAR-FS.

001-00-FIM.                EXIT.

*====*
001-01-TESTAR-FS          SECTION.
*====*

PERFORM 001-02-FS-CADFUNC.

PERFORM 001-03-FS-FUNCINCO.

PERFORM 001-04-FS-FUNCOK.

PERFORM 001-05-FS-RELATO.

001-01-FIM.                EXIT.

*====*
001-02-FS-CADFUNC        SECTION.
*====*

MOVE    'CADFUNC'          TO      FS-ARQUIVO.
MOVE    FS-CADFUNC         TO      FS-COD-STATUS.

IF     FS-CADFUNC          NOT EQUAL '00' AND '10'
      PERFORM 900-00-ERRO
END-IF.

001-02-FIM.                EXIT.

*====*
001-03-FS-FUNCINCO      SECTION.
*====*

MOVE    'FUNCINCO'        TO      FS-ARQUIVO.
MOVE    FS-FUNCINCO       TO      FS-COD-STATUS.

IF     FS-FUNCINCO        NOT EQUAL '00' AND '10'
      PERFORM 900-00-ERRO
END-IF.

001-03-FIM.                EXIT.

*====*
001-04-FS-FUNCOK        SECTION.
*====*

MOVE    'FUNCOK'          TO      FS-ARQUIVO.
MOVE    FS-FUNCOK         TO      FS-COD-STATUS.

IF     FS-FUNCOK          NOT EQUAL '00' AND '10'
      PERFORM 900-00-ERRO
END-IF.

001-04-FIM.                EXIT.

*====*
001-05-FS-RELATO        SECTION.
*====*

MOVE    'RELATO'          TO      FS-ARQUIVO.
MOVE    FS-RELATO         TO      FS-COD-STATUS.

```



```
IF FS-RELATO      NOT EQUAL  '00' AND '10'
   PERFORM 900-00-ERRO
END-IF.
```

```
001-05-FIM.                EXIT.
```

```
=====
002-00-OBTER-DATA-HORA      SECTION.
=====
```

```
MOVE  FUNCTION CURRENT-DATE  TO  WS-DATA-HORARIO-SYS.
MOVE  WS-HORA-SYS            TO  CAB001-HORA.
MOVE  WS-MINUTO-SYS         TO  CAB001-MINUTO.
MOVE  WS-DIA-SYS            TO  CAB002-DIA.
MOVE  WS-MES-SYS            TO  CAB002-MES.
MOVE  WS-ANO-SYS            TO  CAB002-ANO.
```

```
002-00-FIM.                EXIT.
```

```
=====
003-00-VER-ARQ-VAZIO        SECTION.
=====
```

```
PERFORM 003-01-LER-FUNC.
```

```
IF FS-CADFUNC      EQUAL  '10'
   DISPLAY '***** EXER0015 *****'
   DISPLAY '*
   DISPLAY '*          ARQUIVO CADFUNC VAZIO          *
   DISPLAY '*
   DISPLAY '*          PROGRAMA CANCELADO            *
   DISPLAY '*
   DISPLAY '***** EXER0015 *****'
   PERFORM 006-00-FECHAR-ARQUIVOS
   STOP RUN
END-IF.
```

```
003-00-FIM.                EXIT.
```

```
=====
003-01-LER-FUNC            SECTION.
=====
```

```
MOVE  FS-LEITURA          TO  FS-OPERACAO.
READ  CADFUNC.

IF FS-CADFUNC      NOT EQUAL  '10'
   PERFORM 001-02-FS-CADFUNC
   ADD 1 TO ACUM-LIDOS
END-IF.
```

```
003-01-FIM.                EXIT.
```

```
=====
004-00-TRATAR-CADFUNC      SECTION.
=====
```

```
MOVE  FS-GRAVACAO          TO  FS-OPERACAO
MOVE  0                     TO  WS-IMPR-CODIGO
                                 WS-OK.

MOVE  NOME                  TO  DET001-NOME.

IF CODIGO      NOT NUMERIC
   MOVE 1 TO WS-OK
   PERFORM 004-01-IMPRESSAO
ELSE
```

```

IF COD EQUAL ZEROS
  MOVE 2 TO WS-OK
  PERFORM 004-01-IMPRESSAO
END-IF
END-IF.

IF NOME NOT ALPHABETIC
  MOVE 4 TO WS-OK
  PERFORM 004-01-IMPRESSAO
ELSE
  IF NOME EQUAL SPACES
    MOVE 3 TO WS-OK
    PERFORM 004-01-IMPRESSAO
  END-IF
END-IF.

IF WS-OK EQUAL 0
  MOVE 5 TO WS-OK
  PERFORM 004-01-IMPRESSAO
  MOVE CODIGO TO COD-OK
  MOVE NOME TO NOME-OK
  WRITE REG-FUNCOK
  PERFORM 001-05-FS-RELATO
  ADD 1 TO ACUM-OK
ELSE
  MOVE CODIGO TO COD-ERRO
  MOVE NOME TO NOME-ERRO
  MOVE FS-GRAVACAO TO FS-OPERACAO
  WRITE REG-FUNCINCO
  PERFORM 001-03-FS-FUNCINCO
  ADD 1 TO ACUM-ERRADOS
END-IF.

PERFORM 003-01-LER-FUNC.

004-00-FIM. EXIT.

*====*
004-01-IMPRESSAO SECTION.
*====*

IF ACUM-LINHAS GREATER 59
  PERFORM 004-02-CABECALHOS
END-IF

EVALUATE TRUE
  WHEN WS-OK EQUAL 1 MOVE MSG01 TO DET001-MSG
  WHEN WS-OK EQUAL 2 MOVE MSG02 TO DET001-MSG
  WHEN WS-OK EQUAL 3 MOVE MSG03 TO DET001-MSG
  WHEN WS-OK EQUAL 4 MOVE MSG04 TO DET001-MSG
  WHEN WS-OK EQUAL 5 MOVE MSG05 TO DET001-MSG
END-EVALUATE.

IF WS-IMPR-CODIGO EQUAL 0
  MOVE CODIGO TO DET001-CODIGO
  MOVE 1 TO WS-IMPR-CODIGO
  WRITE REG-RELATO FROM DET001 AFTER 2
  PERFORM 001-05-FS-RELATO
  ADD 2 TO ACUM-LINHAS
ELSE
  MOVE SPACES TO DET001-CODIGO
  WRITE REG-RELATO FROM DET001 AFTER 1
  PERFORM 001-05-FS-RELATO
  ADD 1 TO ACUM-LINHAS
END-IF.

004-01-FIM. EXIT.

*====*
004-02-CABECALHOS SECTION.
*====*

```

```

ADD      1                TO      ACUM-PAG.

MOVE     ACUM-PAG        TO      CAB001-PAG.

WRITE    REG-RELATO      FROM    CAB001  AFTER  PAGE.

PERFORM   001-05-FS-RELATO.

WRITE    REG-RELATO      FROM    CAB002  AFTER  1.

PERFORM   001-05-FS-RELATO.

WRITE    REG-RELATO      FROM    CAB003  AFTER  2.

PERFORM   001-05-FS-RELATO.

WRITE    REG-RELATO      FROM    CAB004  AFTER  2.

PERFORM   001-05-FS-RELATO.

WRITE    REG-RELATO      FROM    CAB005  AFTER  1.

PERFORM   001-05-FS-RELATO.

MOVE     SPACES          TO      REG-RELATO.

WRITE    REG-RELATO      AFTER   1.

PERFORM   001-05-FS-RELATO.

MOVE     8                TO      ACUM-LINHAS.

004-02-FIM.                EXIT.

*====*
005-00-IMPRIMIR-TOTAIS     SECTION.
*====*

MOVE     ACUM-LIDOS       TO      TOT001-LIDOS.

MOVE     ACUM-ERRADOS     TO      TOT002-ERRADOS.

MOVE     ACUM-OK          TO      TOT003-OK.

WRITE    REG-RELATO      FROM    TOT001  AFTER  2.

PERFORM   001-05-FS-RELATO.

WRITE    REG-RELATO      FROM    TOT002  AFTER  1.

PERFORM   001-05-FS-RELATO.

WRITE    REG-RELATO      FROM    TOT003  AFTER  1.

PERFORM   001-05-FS-RELATO.

005-00-FIM.                EXIT.

*====*
006-00-FECHAR-ARQUIVOS     SECTION.
*====*

MOVE     FS-FECHAMENTO     TO      FS-OPERACAO.

CLOSE    CADFUNC
         FUNCINCO
         FUNCOK
         RELATO.

PERFORM   001-01-TESTAR-FS.

006-00-FIM.                EXIT.

```

```

=====
007-00-DISPLAY-OK                SECTION.
=====

MOVE    ACUM-LIDOS                TO      WS-LIDOS-ED.

MOVE    ACUM-ERRADOS              TO      WS-ERRADOS-ED.

MOVE    ACUM-OK                   TO      WS-OK-ED.

DISPLAY ' '.
DISPLAY 'TOTAL DE REGISTROS LIDOS = ' WS-LIDOS-ED.
DISPLAY 'TOTAL DE REGISTROS ERRADOS = ' WS-ERRADOS-ED.
DISPLAY 'TOTAL DE REGISTROS OK    = ' WS-OK-ED.
DISPLAY ' '.

DISPLAY ' '.
DISPLAY '***** EXER0015 *****'
DISPLAY '*                                     *'
DISPLAY '*          PROGRAMA ENCERRADO          *'
DISPLAY '*                                     *'
DISPLAY '*          COM SUCESSO                 *'
DISPLAY '*                                     *'
DISPLAY '***** EXER0015 *****'.

007-00-FIM.                        EXIT.

=====
900-00-ERRO                        SECTION.
=====

DISPLAY '***** EXER0015 *****'
DISPLAY '*                                     *'
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY '*                                     *'
DISPLAY '* FILE STATUS = ' FS-COD-STATUS
'                                     *'
DISPLAY '*                                     *'
DISPLAY '* PROGRAMA ENCERRADO'
'                                     *'
DISPLAY '*                                     *'
DISPLAY '***** EXER0015 *****'
STOP    RUN.

900-00-FIM.                        EXIT.

```

16 Exercício 16 – EXER0016

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0016.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* GRAVAR ARQUIVO DE PECAS ATUALIZADOS EM ORDEM CRESCENTE
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
    SELECT CADPECA ASSIGN TO UT-S-CADPECA
    FILE STATUS IS FS-CADPECA.
*
    SELECT CADATU ASSIGN TO UT-S-CADATU
    FILE STATUS IS FS-CADATU.
*
    SELECT RELATO ASSIGN TO UR-S-RELATO
    FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CADPECA
RECORD CONTAINS 80 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADPECA.
01 REG-CADPECA.
05 CODIGO PIC 9(05).
05 NOME PIC X(30).
05 QTD PIC 9(05).
05 QTDMIN PIC 9(05).
05 QTDMAX PIC 9(05).
05 FORNEC PIC 9(05).
05 PUNIT PIC 9(07)V99.
05 PERDA PIC 9(07)V99.
05 TIPO PIC X(01).
05 FILLER PIC X(06).
*
FD CADATU
RECORD CONTAINS 50 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADATU.
01 REG-CADATU.
05 CODIGO-ATU PIC 9(05).
05 NOME-ATU PIC X(30).
05 QTD-ATU PIC 9(05).
05 PUNIT-ATU PIC 9(07)V99.
05 FILLER PIC X(01).
*
FD RELATO
RECORD CONTAINS 78 CHARACTERS
LABEL RECORD IS OMITTED
RECORDING MODE IS F
DATA RECORD IS REG-RELATO.
01 REG-RELATO.
05 FILLER PIC X(78).
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.
05 WS-DATA-SYS.
10 WS-ANO-SYS PIC 9(04) VALUE ZEROS.
10 WS-MES-SYS PIC 9(02) VALUE ZEROS.

```

```

    10 WS-DIA-SYS          PIC 9(02) VALUE ZEROS.
05  WS-HORARIO-SYS.
    10 WS-HORA-SYS        PIC 9(02) VALUE ZEROS.
    10 WS-MINUTO-SYS      PIC 9(02) VALUE ZEROS.
05  FILLER                PIC X(09) VALUE SPACES.
*
* AREA PARA DEFINIR ACUMULADORES
*
77  ACUM-LINHAS           PIC 9(02) VALUE 99.
77  ACUM-PAG              PIC 9(04) VALUE 0000.
77  ACUM-LIDOS            PIC 9(04) VALUE 0000.
77  ACUM-OK               PIC 9(04) VALUE 0000.
77  ACUM-ERRO             PIC 9(04) VALUE 0000.
*
* AREA PARA DEFINIR FILE STATUS
*
77  FS-CADPECA            PIC X(02) VALUE SPACES.
77  FS-CADATU             PIC X(02) VALUE SPACES.
77  FS-RELATO             PIC X(02) VALUE SPACES.
77  FS-COD-STATUS        PIC X(02) VALUE SPACES.
77  FS-ARQUIVO           PIC X(08) VALUE SPACES.
77  FS-OPERACAO          PIC X(13) VALUE SPACES.
77  FS-ABERTURA         PIC X(13) VALUE ' NA ABERTURA'.
77  FS-LEITURA          PIC X(13) VALUE ' NA LEITURA'.
77  FS-GRAVACAO          PIC X(13) VALUE ' NA GRAVACAO'.
77  FS-FECHAMENTO        PIC X(13) VALUE ' NO FECHAMTO'.
*
* AREA PARA DEFINIR MENSAGENS
*
01  MENSAGENS.
    05 MSG01                PIC X(30) VALUE
        'REGISTRO FORA DE ORDEM'.
*
* AREAS EDITADAS
*
01  WS-LIDOS-ED           PIC Z.ZZ9.
01  WS-ERRADOS-ED        PIC Z.ZZ9.
01  WS-OK-ED              PIC Z.ZZ9.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01  CAB001.
    05 FILLER                PIC X(44) VALUE
        'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
    05 CAB001-HORA          PIC 99.
    05 FILLER                PIC X(01) VALUE ':'.
    05 CAB001-MINUTO       PIC 99.
    05 FILLER                PIC X(18) VALUE SPACES.
    05 FILLER                PIC X(06) VALUE 'PAG.: '.
    05 CAB001-PAG          PIC Z.ZZ9.
*
01  CAB002.
    05 FILLER                PIC X(68) VALUE
        'PROGRAMA = EXER0016'.
    05 CAB002-DIA          PIC 99/.
    05 CAB002-MES          PIC 99/.
    05 CAB002-ANO          PIC 9999.
*
01  CAB003.
    05 FILLER                PIC X(25) VALUE SPACES.
    05 FILLER                PIC X(63) VALUE
        'RELATORIO DE INCONSISTENCIA'.
*
01  CAB004.
    05 FILLER                PIC X(78) VALUE 'CODIGO'.
*
01  CAB005.
    05 FILLER                PIC X(18) VALUE 'DA PECA'.
    05 FILLER                PIC X(36) VALUE
        'NOME DA PECA'.
    05 FILLER                PIC X(24) VALUE 'MENSAGEM'.
*
01  DET001.
    05 FILLER                PIC X(01) VALUE ' '.

```

```

05 DET001-COD          PIC 9(05).
05 FILLER              PIC X(06) VALUE SPACES.
05 DET001-NOME        PIC X(30).
05 FILLER              PIC X(06) VALUE SPACES.
05 DET001-MSG         PIC X(30).
*
01 TOT001.
05 FILLER              PIC X(29) VALUE
   'TOTAL DE REGISTROS LIDOS = '.
05 TOT001-LIDOS       PIC Z.ZZ9.
05 FILLER              PIC X(54) VALUE SPACES.
*
01 TOT002.
05 FILLER              PIC X(29) VALUE
   'TOTAL DE REGISTROS OK = '.
05 TOT002-OK          PIC Z.ZZ9.
05 FILLER              PIC X(54) VALUE SPACES.
*
01 TOT003.
05 FILLER              PIC X(29) VALUE
   'TOTAL DE REGISTROS ERRADOS = '.
05 TOT003-ERRO        PIC Z.ZZ9.
05 FILLER              PIC X(54) VALUE SPACES.
*
PROCEDURE      DIVISION.
=====
000-00-INICIO          SECTION.
=====

PERFORM      001-00-ABRIR-ARQUIVOS.

PERFORM      002-00-OBTER-DATA-HORA.

PERFORM      003-00-VER-ARQ-VAZIO.

PERFORM      004-00-TRATAR-CADPECA UNTIL
FS-CADPECA EQUAL '10'.

PERFORM      005-00-IMPRIMIR-TOTAIS.

PERFORM      006-00-FECHAR-ARQUIVOS.

PERFORM      007-00-DISPLAY-OK.

STOP      RUN.

=====
001-00-ABRIR-ARQUIVOS          SECTION.
=====

MOVE      FS-ABERTURA          TO      FS-OPERACAO.

OPEN      INPUT      CADPECA
OUTPUT    CADATU
RELATO.

PERFORM      001-01-TESTAR-FS.

001-00-FIM.          EXIT.

=====

001-01-TESTAR-FS          SECTION.
=====

PERFORM      001-02-FS-CADPECA.

PERFORM      001-03-FS-CADATU.

PERFORM      001-04-FS-RELATO.

001-01-FIM.          EXIT.

```

```

=====
001-02-FS-CADPECA          SECTION.
=====

      MOVE      'CADPECA'          TO          FS-ARQUIVO.

      MOVE      FS-CADPECA         TO          FS-COD-STATUS.

      IF      FS-CADPECA          NOT EQUAL   '00' AND '10'
          PERFORM 900-00-ERRO
      END-IF.

001-02-FIM.                EXIT.

=====
001-03-FS-CADATU          SECTION.
=====

      MOVE      'CADATU'           TO          FS-ARQUIVO.

      MOVE      FS-CADATU          TO          FS-COD-STATUS.

      IF      FS-CADATU           NOT EQUAL   '00' AND '10'
          PERFORM 900-00-ERRO
      END-IF.

001-03-FIM.                EXIT.

=====
001-04-FS-RELATO          SECTION.
=====

      MOVE      'RELATO'           TO          FS-ARQUIVO.

      MOVE      FS-RELATO          TO          FS-COD-STATUS.

      IF      FS-RELATO           NOT EQUAL   '00' AND '10'
          PERFORM 900-00-ERRO
      END-IF.

001-04-FIM.                EXIT.

=====
002-00-OBTER-DATA-HORA    SECTION.
=====

      MOVE      FUNCTION CURRENT-DATE TO      WS-DATA-HORARIO-SYS.

      MOVE      WS-HORA-SYS        TO          CAB001-HORA.

      MOVE      WS-MINUTO-SYS      TO          CAB001-MINUTO.

      MOVE      WS-DIA-SYS         TO          CAB002-DIA.

      MOVE      WS-MES-SYS         TO          CAB002-MES.

      MOVE      WS-ANO-SYS         TO          CAB002-ANO.

002-00-FIM.                EXIT.

=====
003-00-VER-ARQ-VAZIO     SECTION.
=====

      PERFORM      003-01-LER-PECA.

      IF      FS-CADPECA          EQUAL      '10'
          DISPLAY '***** EXER0016 *****'
          DISPLAY '* '
          DISPLAY '*          ARQUIVO CADPECA VAZIO          * '
          DISPLAY '* '
          DISPLAY '*          PROGRAMA CANCELADO          * '
          DISPLAY '* '

```



```

DISPLAY '***** EXER0016 *****'
PERFORM 006-00-FECHAR-ARQUIVOS
STOP RUN
END-IF.

003-00-FIM.                                EXIT.

*=====*
003-01-LER-PECA                             SECTION.
*=====*

MOVE FS-LEITURA                            TO FS-OPERACAO.

READ CADPECA.

IF FS-CADPECA NOT EQUAL '10'
PERFORM 001-02-FS-CADPECA
ADD 1 TO ACUM-LIDOS
END-IF.

003-01-FIM.                                EXIT.

*=====*
004-00-TRATAR-CADPECA                       SECTION.
*=====*

MOVE FS-GRAVACAO                            TO FS-OPERACAO.

IF CODIGO LESS WS-COD-ANT
ADD 1 TO ACUM-ERRO
PERFORM 004-01-ROT-ERRO
ELSE
ADD 1 TO ACUM-OK
PERFORM 004-03-ROT-OK
END-IF.

MOVE CODIGO TO WS-COD-ANT.

PERFORM 003-01-LER-PECA.

004-00-FIM.                                EXIT.

*=====*
004-01-ROT-ERRO                             SECTION.
*=====*

IF ACUM-LINHAS GREATER 59
PERFORM 004-02-CABECALHOS
END-IF.

MOVE CODIGO TO DET001-COD.

MOVE NOME TO DET001-NOME.

MOVE MSG01 TO DET001-MSG.

WRITE REG-RELATO FROM DET001 AFTER 1.

PERFORM 001-04-FS-RELATO.

ADD 1 TO ACUM-LINHAS.

004-01-FIM.                                EXIT.

*=====*
004-02-CABECALHOS                           SECTION.
*=====*

MOVE FS-GRAVACAO                            TO FS-OPERACAO.

ADD 1 TO ACUM-PAG.

MOVE ACUM-PAG TO CAB001-PAG.

```

```

WRITE REG-RELATO FROM CAB001 AFTER PAGE.
PERFORM 001-04-FS-RELATO.
WRITE REG-RELATO FROM CAB002 AFTER 1.
PERFORM 001-04-FS-RELATO.
WRITE REG-RELATO FROM CAB003 AFTER 2.
PERFORM 001-04-FS-RELATO.
WRITE REG-RELATO FROM CAB004 AFTER 2.
PERFORM 001-04-FS-RELATO.
WRITE REG-RELATO FROM CAB005 AFTER 1.
PERFORM 001-04-FS-RELATO.
MOVE SPACES TO REG-RELATO.
WRITE REG-RELATO AFTER 1.
PERFORM 001-04-FS-RELATO.
MOVE 8 TO ACUM-LINHAS.
004-02-FIM. EXIT.
*====*
004-03-ROT-OK SECTION.
*====*
MOVE FS-GRAVACAO TO FS-OPERACAO.
MOVE CODIGO TO CODIGO-ATU.
MOVE NOME TO NOME-ATU.
MOVE QTD TO QTD-ATU.
MOVE PUNIT TO PUNIT-ATU.
WRITE REG-CADATU.
PERFORM 001-03-FS-CADATU.
004-03-FIM. EXIT.
*====*
005-00-IMPRIMIR-TOTAIS SECTION.
*====*
MOVE FS-GRAVACAO TO FS-OPERACAO.
MOVE ACUM-LIDOS TO TOT001-LIDOS.
MOVE ACUM-OK TO TOT002-OK.
MOVE ACUM-ERRO TO TOT003-ERRO.
WRITE REG-RELATO FROM TOT001 AFTER 3.
PERFORM 001-04-FS-RELATO.
WRITE REG-RELATO FROM TOT002 AFTER 1.
PERFORM 001-04-FS-RELATO.
WRITE REG-RELATO FROM TOT003 AFTER 1.
PERFORM 001-04-FS-RELATO.

```

```

005-00-FIM.                                EXIT.

=====
006-00-FECHAR-ARQUIVOS                     SECTION.
=====

MOVE    FS-FECHAMENTO                        TO    FS-OPERACAO.

CLOSE   CADPECA
        CADATU
        RELATO.

PERFORM 001-01-TESTAR-FS.

006-00-FIM.                                EXIT.

=====
007-00-DISPLAY-OK                          SECTION.
=====

MOVE    ACUM-LIDOS                          TO    WS-LIDOS-ED.

MOVE    ACUM-ERRO                           TO    WS-ERRADOS-ED.

MOVE    ACUM-OK                              TO    WS-OK-ED.

DISPLAY ' '.
DISPLAY 'TOTAL DE REGISTROS LIDOS   = ' WS-LIDOS-ED.
DISPLAY 'TOTAL DE REGISTROS ERRADOS = ' WS-ERRADOS-ED.
DISPLAY 'TOTAL DE REGISTROS OK     = ' WS-OK-ED.
DISPLAY ' '.
DISPLAY ' '.
DISPLAY '***** EXER0016 *****'
DISPLAY '*                                     *'
DISPLAY '*           PROGRAMA ENCERRADO          *'
DISPLAY '*                                     *'
DISPLAY '*           COM SUCESSO                 *'
DISPLAY '*                                     *'
DISPLAY '***** EXER0016 *****'

007-00-FIM.                                EXIT.

=====
900-00-ERRO                                SECTION.
=====

DISPLAY '***** EXER0016 *****'
DISPLAY '*                                     *'
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY '*                                     *'
DISPLAY '* FILE STATUS = ' FS-COD-STATUS
        '*                                     *'

DISPLAY '*                                     *'
DISPLAY '* PROGRAMA ENCERRADO'
        '*                                     *'

DISPLAY '*                                     *'
DISPLAY '***** EXER0016 *****'
STOP    RUN.

900-00-FIM.                                EXIT.

```

17 Exercício 17 – EXER0017

```

IDENTIFICATION DIVISION.
PROGRAM-ID.     EXER0017.
AUTHOR.        FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* CONSISTENCIA DO CADASTRO DE MATERIAIS
*
ENVIRONMENT     DIVISION.
CONFIGURATION   SECTION.
SPECIAL-NAMES.
                DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT    SECTION.
FILE-CONTROL.
    SELECT CADMAT      ASSIGN TO UT-S-MATDES
           FILE STATUS IS      FS-CADMAT.
*
    SELECT MATDES      ASSIGN TO UT-S-MATDES
           FILE STATUS IS      FS-MATDES.
*
    SELECT MATSEL      ASSIGN TO UT-S-MATSEL
           FILE STATUS IS      FS-MATSEL.
*
DATA            DIVISION.
FILE            SECTION.
*
FD CADMAT
RECORD          CONTAINS 50 CHARACTERS
RECORDING       MODE     IS F
LABEL           RECORD   IS STANDARD
DATA            RECORD   IS REG-CADMAT.
01 REG-CADMAT.
05 COD-MAT      PIC 9(05).
05 COD-MAT-R    REDEFINES
    COD-MAT     PIC X(05).
05 NOME-MAT     PIC X(20).
05 QTD-MAT      PIC S9(05).
05 QTD-MAT-R    REDEFINES
    QTD-MAT     PIC X(05).
05 VLR-UNIT     PIC S9(05)V99.
05 VLR-UNIT-R   REDEFINES
    VLR-UNIT    PIC X(07).
05 CONTA-MAT    PIC X(10).
05 FILLER       PIC X(03).
*
FD MATDES
RECORD          CONTAINS 50 CHARACTERS
RECORDING       MODE     IS F
LABEL           RECORD   IS STANDARD
DATA            RECORD   IS REG-MATDES.
01 REG-MATDES.
05 COD-MAT-D    PIC 9(05).
05 NOME-MAT-D   PIC X(20).
05 QTD-MAT-D    PIC S9(05).
05 VLR-UNIT-D   PIC S9(05)V99.
05 CONTA-MAT-D  PIC X(10).
05 FILLER       PIC X(03).
*
FD MATSEL
RECORD          CONTAINS 70 CHARACTERS
RECORDING       MODE     IS F
LABEL           RECORD   IS STANDARD
DATA            RECORD   IS REG-MATSEL.
01 REG-MATSEL.
05 COD-MAT-S    PIC 9(05).
05 NOME-MAT-S   PIC X(20).
05 QTD-MAT-S    PIC S9(05).
05 VLR-UNIT-S   PIC S9(05)V99.
05 CONTA-MAT-S  PIC X(10).
05 VLR-TOTAL-S  PIC S9(11)V99.
05 FILLER       PIC X(10).

```

```

*
WORKING-STORAGE SECTION.
*
* AREA PARA DEFINIR CHAVE DE ERRO
*
01 WS-ERRO                                PIC 9(01) VALUE 0.
*
* AREA PARA CALCULOS
*
01 WS-VLR-TOT                              PIC S9(11)V99 VALUE 0.
*
* AREA PARA DEFINIR FILE STATUS
*
77 FS-CADMAT                              PIC X(02) VALUE SPACES.
77 FS-MATDES                              PIC X(02) VALUE SPACES.
77 FS-MATSEL                              PIC X(02) VALUE SPACES.
77 FS-COD-STATUS                          PIC X(02) VALUE SPACES.
77 FS-ARQUIVO                             PIC X(08) VALUE SPACES.
77 FS-OPERACAO                            PIC X(13) VALUE SPACES.
77 FS-ABERTURA                           PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA                             PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO                            PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO                           PIC X(13) VALUE 'NO FECHAMENTO'.
*
PROCEDURE          DIVISION.

=====
000-00-ROTINA-PRINCIPAL          SECTION.
=====

PERFORM          001-00-ABRIR-ARQUIVOS.

PERFORM          002-00-VER-ARQ-VAZIO.

PERFORM          003-00-TRATAR-CADMAT UNTIL
FS-CADMAT EQUAL '10'.

PERFORM          004-00-FECHAR-ARQUIVOS.

STOP            RUN.

=====
001-00-ABRIR-ARQUIVOS          SECTION.
=====

MOVE            FS-ABERTURA          TO          FS-OPERACAO.

OPEN            INPUT  CADMAT
                OUTPUT MATDES
                MATSEL.

PERFORM          001-01-TESTAR-FS.

001-00-FIM.          EXIT.

=====
001-01-TESTAR-FS          SECTION.
=====

PERFORM          001-02-FS-CADMAT.

PERFORM          001-03-FS-MATDES.

PERFORM          001-04-FS-MATSEL.

001-01-FIM.          EXIT.

=====
001-02-FS-CADMAT          SECTION.
=====

MOVE            'CADMAT'          TO          FS-ARQUIVO.

MOVE            FS-CADMAT          TO          FS-COD-STATUS.

```

```

IF FS-CADMAT      NOT EQUAL  '00' AND '10'
  PERFORM 900-00-ERRO
END-IF.

001-02-FIM.                EXIT.

*=====*
001-03-FS-MATDES          SECTION.
*=====*

MOVE  'MATDES'           TO      FS-ARQUIVO.

MOVE  FS-MATDES          TO      FS-COD-STATUS.

IF FS-MATDES      NOT EQUAL  '00' AND '10'
  PERFORM 900-00-ERRO
END-IF.

001-03-FIM.                EXIT.

*=====*
001-04-FS-MATSEL          SECTION.
*=====*

MOVE  'MATSEL'           TO      FS-ARQUIVO.

MOVE  FS-MATSEL          TO      FS-COD-STATUS.

IF FS-MATSEL      NOT EQUAL  '00' AND '10'
  PERFORM 900-00-ERRO
END-IF.

001-04-FIM.                EXIT.

*=====*
002-00-VER-ARQ-VAZIO      SECTION.
*=====*

PERFORM 002-01-LER-CADMAT.

IF FS-CADMAT      EQUAL      '10'
  DISPLAY '***** EXER0017 *****'
  DISPLAY '* * * * *'
  DISPLAY '*          ARQUIVO CADMAT VAZIO * * * * *'
  DISPLAY '* * * * *'
  DISPLAY '*          PROGRAMA CANCELADO * * * * *'
  DISPLAY '* * * * *'
  DISPLAY '***** EXER0017 *****'
  PERFORM 004-00-FECHAR-ARQUIVOS
  STOP      RUN
END-IF.

002-00-FIM.                EXIT.

*=====*
002-01-LER-CADMAT          SECTION.
*=====*

MOVE  FS-LEITURA        TO      FS-OPERACAO.

READ  CADMAT.

IF FS-CADMAT      NOT EQUAL  '10'
  PERFORM 001-02-FS-CADMAT
END-IF.

002-01-FIM.                EXIT.

*=====*
003-00-TRATAR-CADMAT      SECTION.
*=====*

```

```

MOVE      FS-GRAVACAO          TO      FS-OPERACAO.

PERFORM   003-01-CONSISTENCIA.

PERFORM   002-01-LER-CADMAT.

003-00-FIM.                      EXIT.

*=====*
003-01-CONSISTENCIA              SECTION.
*=====*

MOVE      0                    TO      WS-ERRO.

IF  COD-MAT-R      NOT NUMERIC      OR
   COD-MAT-R      EQUAL  SPACES     OR
   COD-MAT         EQUAL  ZEROS     TO      WS-ERRO
MOVE      1
END-IF.

IF  NOME-MAT       EQUAL  SPACES     TO      WS-ERRO
MOVE      1
END-IF.

IF  QTD-MAT-R      NOT NUMERIC      OR
   QTD-MAT-R      EQUAL  SPACES     OR
   QTD-MAT         EQUAL  ZEROS     TO      WS-ERRO
MOVE      1
END-IF.

IF  VLR-UNIT-R     NOT NUMERIC      OR
   VLR-UNIT-R     EQUAL  SPACES     OR
   VLR-UNIT        EQUAL  ZEROS     TO      WS-ERRO
MOVE      1
END-IF.

IF  CONTA-MAT      EQUAL  SPACES     TO      WS-ERRO
MOVE      1
END-IF.

IF  WS-ERRO        EQUAL  0
  COMPUTE WS-VLR-TOT = QTD-MAT * VLR-UNIT
  MOVE    COD-MAT      TO      COD-MAT-S
  MOVE    NOME-MAT     TO      NOME-MAT-S
  MOVE    QTD-MAT      TO      QTD-MAT-S
  MOVE    VLR-UNIT     TO      VLR-UNIT-S
  MOVE    CONTA-MAT    TO      CONTA-MAT-S
  MOVE    WS-VLR-TOT   TO      VLR-TOTAL-S
  WRITE   REG-MATSEL
  PERFORM 001-04-FS-MATSEL
ELSE
  WRITE   REG-MATDES   FROM    REG-CADMAT
  PERFORM 001-03-FS-MATDES
END-IF.

003-01-FIM.                      EXIT.

*=====*
004-00-FECHAR-ARQUIVOS          SECTION.
*=====*

MOVE      FS-FECHAMENTO          TO      FS-OPERACAO.

CLOSE    CADMAT
         MATDES
         MATSEL.

PERFORM   001-01-TESTAR-FS.

004-00-FIM.                      EXIT.

*=====*

```

900-00-ERRO

SECTION.

=====

```
DISPLAY '***** EXER0017 *****'  
DISPLAY '*'  
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'  
DISPLAY '*'  
DISPLAY '* FILE STATUS = ' FS-COD-STATUS  
' '*  
DISPLAY '* '*  
DISPLAY '* PROGRAMA ENCERRADO'  
' '*  
DISPLAY '* '*  
DISPLAY '***** EXER0017 *****'  
STOP RUN.
```

900-00-FIM.

EXIT.

18 Exercício 18 – EXER0018

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0018.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* GERAR ARQUIVO DE MATERIAIS ATUALIZADO
* BALANCE LINE COM USO DO HIGH-VALUES
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
    SELECT CADMATAN ASSIGN TO UT-S-CADMATAN
           FILE STATUS IS FS-CADMATAN.
*
    SELECT CADMATNO ASSIGN TO UT-S-CADMATNO
           FILE STATUS IS FS-CADMATNO.
*
    SELECT CADMATAT ASSIGN TO UT-S-CADMATAT
           FILE STATUS IS FS-CADMATAT.
*
DATA DIVISION.
FILE SECTION.
*
FD CADMATAN
RECORD CONTAINS 50 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADMATAN.
01 REG-CADMATAN.
05 COD-MATANT.
10 CODIGO-ANT PIC 9(05).
05 NOME-MATANT PIC X(20).
05 QTD-MATANT PIC S9(05).
05 VLR-UNITANT PIC S9(05)V99.
05 CONTA-MATANT PIC X(10).
05 FILLER PIC X(03).
*
FD CADMATNO
RECORD CONTAINS 50 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADMATNO.
01 REG-CADMATNO.
05 COD-MATNOV.
10 CODIGO-NOV PIC 9(05).
05 NOME-MATNOV PIC X(20).
05 QTD-MATNOV PIC S9(05).
05 VLR-UNITNOV PIC S9(05)V99.
05 CONTA-MATNOV PIC X(10).
05 FILLER PIC X(03).
*
FD CADMATAT
RECORD CONTAINS 50 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CADMATAT.
01 REG-CADMATAT.
05 COD-MATATU PIC 9(05).
05 NOME-MATATU PIC X(20).
05 QTD-MATATU PIC S9(05).
05 VLR-UNITATU PIC S9(05)V99.
05 CONTA-MATATU PIC X(10).
05 FILLER PIC X(03).
*
WORKING-STORAGE SECTION.
*
* AREA PARA DEFINIR CHAVE DE GRAVACAO

```

```

*
01 WS-CODIGO-GRAVADO          PIC X(05) VALUE SPACES.
*
* AREA PARA DEFINIR FILE STATUS
*
01 AREA-DE-FILE-STATUS.
05 FS-CADMATAN                PIC X(02) VALUE SPACES.
05 FS-CADMATNO                PIC X(02) VALUE SPACES.
05 FS-CADMATAT                PIC X(02) VALUE SPACES.
05 FS-COD-STATUS              PIC X(02) VALUE SPACES.
05 FS-ARQUIVO                 PIC X(08) VALUE SPACES.
05 FS-OPERACAO                PIC X(13) VALUE SPACES.
05 FS-ABERTURA                PIC X(13) VALUE 'NA ABERTURA'.
05 FS-LEITURA                 PIC X(13) VALUE 'NA LEITURA'.
05 FS-GRAVACAO                PIC X(13) VALUE 'NA GRAVACAO'.
05 FS-FECHAMENTO              PIC X(13) VALUE 'NO FECHAMENTO'.
*
PROCEDURE          DIVISION.

*=====*
000-00-ROTINA-PRINCIPAL          SECTION.
*=====*

PERFORM          001-00-ABRIR-ARQUIVOS.

PERFORM          002-00-VER-ARQS-VAZIOS.

PERFORM          003-00-TRATAR-CADMAT UNTIL
COD-MATANT EQUAL HIGH-VALUES AND
COD-MATNOV EQUAL HIGH-VALUES.

PERFORM          004-00-FECHAR-ARQUIVOS.

STOP          RUN.

*=====*
001-00-ABRIR-ARQUIVOS          SECTION.
*=====*

MOVE          FS-ABERTURA          TO          FS-OPERACAO.

OPEN          INPUT          CADMATAN
              CADMATNO
              OUTPUT          CADMATAT.

PERFORM          001-01-TESTAR-FS.

001-00-FIM.          EXIT.

*=====*
001-01-TESTAR-FS          SECTION.
*=====*

PERFORM          001-02-FS-CADMATAN.

PERFORM          001-03-FS-CADMATNO.

PERFORM          001-04-FS-CADMATAT.

001-01-FIM.          EXIT.

*=====*
001-02-FS-CADMATAN          SECTION.
*=====*

MOVE          'CADMATAN'          TO          FS-ARQUIVO.

MOVE          FS-CADMATAN          TO          FS-COD-STATUS.

IF          FS-CADMATAN          NOT EQUAL '00' AND '10'
PERFORM          900-00-ERRO
END-IF.

```

```

001-02-FIM.                                EXIT.

=====
001-03-FS-CADMATNO                         SECTION.
=====

MOVE    'CADMATNO'                        TO    FS-ARQUIVO.

MOVE    FS-CADMATNO                       TO    FS-COD-STATUS.

IF    FS-CADMATNO    NOT EQUAL    '00' AND '10'
    PERFORM    900-00-ERRO
END-IF.

001-03-FIM.                                EXIT.

=====
001-04-FS-CADMATAT                         SECTION.
=====

MOVE    'CADMATAT'                        TO    FS-ARQUIVO.

MOVE    FS-CADMATAT                       TO    FS-COD-STATUS.

IF    FS-CADMATAT    NOT EQUAL    '00' AND '10'
    PERFORM    900-00-ERRO
END-IF.

001-04-FIM.                                EXIT.

=====
002-00-VER-ARQS-VAZIOS                     SECTION.
=====

PERFORM    002-01-LER-CADMATAN.

IF    FS-CADMATAN    EQUAL    '10'
    DISPLAY '***** EXER0018 *****'
    DISPLAY '* * * * *'
    DISPLAY '*          ARQUIVO CADMATAN VAZIO * * * * *'
    DISPLAY '* * * * *'
    DISPLAY '*          PROGRAMA CANCELADO * * * * *'
    DISPLAY '* * * * *'
    DISPLAY '***** EXER0018 *****'
    PERFORM 004-00-FECHAR-ARQUIVOS
    STOP    RUN
END-IF.

PERFORM    002-02-LER-CADMATNO.

IF    FS-CADMATNO    EQUAL    '10'
    DISPLAY '***** EXER0018 *****'
    DISPLAY '* * * * *'
    DISPLAY '*          ARQUIVO CADMATNO VAZIO * * * * *'
    DISPLAY '* * * * *'
    DISPLAY '*          PROGRAMA CANCELADO * * * * *'
    DISPLAY '* * * * *'
    DISPLAY '***** EXER0018 *****'
    PERFORM 004-00-FECHAR-ARQUIVOS
    STOP    RUN
END-IF.

INITIALIZE    REG-CADMATAT.

002-00-FIM.                                EXIT.

=====
002-01-LER-CADMATAN                         SECTION.
=====

MOVE    FS-LEITURA                        TO    FS-OPERACAO.

READ    CADMATAN.

```

```

IF FS-CADMATAN      NOT EQUAL  '10'
  PERFORM 001-02-FS-CADMATAN

ELSE
  MOVE      HIGH-VALUES      TO      COD-MATANT
END-IF.

002-01-FIM.                                EXIT.

*====*
002-02-LER-CADMATNO      SECTION.
*====*

MOVE      FS-LEITURA      TO      FS-OPERACAO.

READ      CADMATNO.

IF FS-CADMATNO      NOT EQUAL  '10'
  PERFORM 001-03-FS-CADMATNO
ELSE
  MOVE      HIGH-VALUES      TO      COD-MATNOV
END-IF.

002-02-FIM.                                EXIT.

*====*
003-00-TRATAR-CADMAT      SECTION.
*====*

IF COD-MATANT      EQUAL      COD-MATNOV
  PERFORM 003-01-GRAVAR-MATNOV
  PERFORM 002-01-LER-CADMATAN
  PERFORM 002-02-LER-CADMATNO
ELSE
  IF COD-MATANT      LESS      COD-MATNOV
    PERFORM 003-02-GRAVAR-MATANT
    PERFORM 002-01-LER-CADMATAN
  ELSE
    PERFORM 003-01-GRAVAR-MATNOV
    PERFORM 002-02-LER-CADMATNO
  END-IF
END-IF.

003-00-FIM.                                EXIT.

*====*
003-01-GRAVAR-MATNOV      SECTION.
*====*

MOVE      FS-GRAVACAO      TO      FS-OPERACAO.

IF CODIGO-NOV      NOT EQUAL  WS-CODIGO-GRAVADO
  WRITE REG-CADMATAT      FROM      REG-CADMATNO
  PERFORM 001-04-FS-CADMATAT
  MOVE      CODIGO-NOV      TO      WS-CODIGO-GRAVADO
END-IF.

003-01-FIM.                                EXIT.

*====*
003-02-GRAVAR-MATANT      SECTION.
*====*

MOVE      FS-GRAVACAO      TO      FS-OPERACAO.

IF CODIGO-ANT      NOT EQUAL  WS-CODIGO-GRAVADO
  WRITE REG-CADMATAT      FROM      REG-CADMATAN
  PERFORM 001-04-FS-CADMATAT
  MOVE      CODIGO-ANT      TO      WS-CODIGO-GRAVADO
END-IF.

003-02-FIM.                                EXIT.

*====*

```

```
004-00-FECHAR-ARQUIVOS          SECTION.
=====
MOVE          FS-FECHAMENTO      TO          FS-OPERACAO.

CLOSE        CADMATAN
            CADMATNO
            CADMATAT.

PERFORM      001-01-TESTAR-FS.
004-00-FIM.          EXIT.

=====
900-00-ERRO          SECTION.
=====

DISPLAY '***** EXER0018 *****'
DISPLAY '*                               *'
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY '*                               *'
DISPLAY '* FILE STATUS = ' FS-COD-STATUS
            *'

DISPLAY '*                               *'
DISPLAY '* PROGRAMA ENCERRADO'
            *'

DISPLAY '*                               *'
DISPLAY '***** EXER0018 *****'
STOP      RUN.

900-00-FIM.          EXIT.
```

19 Exercício 19 – EXER0019

```

IDENTIFICATION DIVISION.
PROGRAM-ID. EXER0019.
AUTHOR. FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* GERAR ARQUIVO DE CORRENTISTAS UTILIZANDO HIGH-VALUES.
*
ENVIRONMENT DIVISION.
CONFIGURATION SECTION.
SPECIAL-NAMES.
        DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT SECTION.
FILE-CONTROL.
        SELECT CTCORABC ASSIGN TO UT-S-CTCORABC
        FILE STATUS IS FS-CTCORABC.
*
        SELECT CTCORXYZ ASSIGN TO UT-S-CTCORXYZ
        FILE STATUS IS FS-CTCORXYZ.
*
        SELECT CTCORGER ASSIGN TO UT-S-CTCORGER
        FILE STATUS IS FS-CTCORGER.
*
        SELECT RELATO ASSIGN TO UR-S-RELATO
        FILE STATUS IS FS-RELATO.
*
DATA DIVISION.
FILE SECTION.
*
FD CTCORABC
RECORD CONTAINS 60 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CTCORABC.
01 REG-CTCORABC.
05 CPF-ABC.
    10 CPF-ABC-NUM PIC 9(09).
    10 CPF-ABC-DIG PIC 9(02).
05 NOME-ABC PIC X(30).
05 DATA-ABC.
    10 DIA-ABC PIC 9(02).
    10 MES-ABC PIC 9(02).
    10 ANO-ABC PIC 9(04).
05 FILLER PIC X(11).
*
FD CTCORXYZ
RECORD CONTAINS 60 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CTCORXYZ.
01 REG-CTCORXYZ.
05 CPF-XYZ.
    10 CPF-XBZ-NUM PIC 9(09).
    10 CPF-XYZ-DIG PIC 9(02).
05 NOME-XYZ PIC X(30).
05 DATA-XYZ.
    10 DIA-XYZ PIC 9(02).
    10 MES-XYZ PIC 9(02).
    10 ANO-XYZ PIC 9(04).
05 FILLER PIC X(11).
*
FD CTCORGER
RECORD CONTAINS 50 CHARACTERS
RECORDING MODE IS F
LABEL RECORD IS STANDARD
DATA RECORD IS REG-CTCORGER.
01 REG-CTCORGER.
05 CPF-GER.
    10 CPF-GER-NUM PIC 9(09).
    10 CPF-GER-DIG PIC 9(02).
05 NOME-GER PIC X(30).

```

```

05 BCO-GER                PIC X(03) .
05 FILLER                 PIC X(06) .
*
FD RELATO
RECORD                   CONTAINS 58 CHARACTERS
RECORDING MODE           IS F
LABEL RECORD            IS OMITTED
DATA RECORD             IS REG-RELATO.
01 REG-RELATO.
05 FILLER                 PIC X(58) .
*
WORKING-STORAGE SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.
05 WS-DATA-SYS.
10 WS-ANO-SYS            PIC 9(04) VALUE ZEROS.
10 WS-MES-SYS            PIC 9(02) VALUE ZEROS.
10 WS-DIA-SYS            PIC 9(02) VALUE ZEROS.
05 WS-HORARIO-SYS.
10 WS-HORA-SYS           PIC 9(02) VALUE ZEROS.
10 WS-MINUTO-SYS         PIC 9(02) VALUE ZEROS.
05 FILLER                 PIC X(09) VALUE SPACES.
*
* AREA PARA DEFINIR ACUMULADORES
*
77 ACUM-LINHAS            PIC 9(02) VALUE 60.
77 ACUM-PAG                PIC 9(04) VALUE 0.
77 ACUM-LIDOS-ABC         PIC 9(06) VALUE 0.
77 ACUM-LIDOS-XYZ         PIC 9(06) VALUE 0.
77 ACUM-GRAVADOS         PIC 9(06) VALUE 0.
*
* AREA PARA INVERSAO DE DATAS
*
01 WS-DATA-INV-ABC.
05 WS-ANO-INV-ABC         PIC 9(04) VALUE 0.
05 WS-MES-INV-ABC         PIC 9(02) VALUE 0.
05 WS-DIA-INV-ABC         PIC 9(02) VALUE 0.
*
01 WS-DATA-INV-XYZ.
05 WS-ANO-INV-XYZ         PIC 9(04) VALUE 0.
05 WS-MES-INV-XYZ         PIC 9(02) VALUE 0.
05 WS-DIA-INV-XYZ         PIC 9(02) VALUE 0.
*
* AREA PARA DEFINIR CHAVE DE GRAVACAO
*
01 WS-CPF-GRAV            PIC 9(11) VALUE ZEROS.
*
* AREA PARA DEFINIR FILE STATUS
*
77 FS-CTCORABC            PIC X(02) VALUE SPACES.
77 FS-CTCORXYZ            PIC X(02) VALUE SPACES.
77 FS-CTCORGER            PIC X(02) VALUE SPACES.
77 FS-RELATO              PIC X(02) VALUE SPACES.
77 FS-COD-STATUS          PIC X(02) VALUE SPACES.
77 FS-ARQUIVO             PIC X(08) VALUE SPACES.
77 FS-OPERACAO            PIC X(13) VALUE SPACES.
77 FS-ABERTURA           PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA            PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO            PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO          PIC X(13) VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01 CAB001.
05 FILLER                 PIC X(38) VALUE
'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
05 CAB001-HORA            PIC 99.
05 FILLER                 PIC X VALUE ':'.
05 CAB001-MINUTO          PIC 99.
05 FILLER                 PIC X(04) VALUE SPACES.
05 FILLER                 PIC X(06) VALUE 'PAG.:'.
05 CAB001-PAG             PIC Z.ZZ9.

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*
01 CAB002.
05 FILLER                PIC X(48) VALUE
   'PROGRAMA = EXER0019'.
05 CAB002-DIA            PIC 99/.
05 CAB002-MES           PIC 99/.
05 CAB002-ANO           PIC 9999.

*
01 CAB003.
05 FILLER                PIC X(16) VALUE SPACES.
05 FILLER                PIC X(42) VALUE
   'LISTAGEM DOS CORRENTISTAS'.

*
01 CAB004.
05 FILLER                PIC X(58) VALUE ALL '='.

*
01 CAB005.
05 FILLER                PIC X(24) VALUE ' CODIGO CPF'.
05 FILLER                PIC X(29) VALUE
   'NOME DO CORRENTISTA'.
05 FILLER                PIC X(05) VALUE 'BANCO'.

*
01 DET001.
05 DET001-CPF-NUM       PIC 9(09).
05 FILLER                PIC X VALUE '-'.
05 DET001-CPF-DIG       PIC 9(02).
05 FILLER                PIC X(05) VALUE SPACES.
05 DET001-NOME          PIC X(30).
05 FILLER                PIC X(05) VALUE SPACES.
05 DET001-BCO           PIC X(03).
05 FILLER                PIC X VALUE SPACE.

*
01 TOT001.
05 FILLER                PIC X(44) VALUE
   'TOTAL DE CORRENTISTAS LIDOS (BANCO ABC):'.
05 TOT001-LIDOS-ABC     PIC ZZZ.ZZ9.
05 FILLER                PIC X(07) VALUE SPACES.

*
01 TOT002.
05 FILLER                PIC X(44) VALUE
   'TOTAL DE CORRENTISTAS LIDOS (BANCO XYZ):'.
05 TOT002-LIDOS-XYZ     PIC ZZZ.ZZ9.
05 FILLER                PIC X(07) VALUE SPACES.

*
01 TOT003.
05 FILLER                PIC X(44) VALUE
   'TOTAL DE CORRENTISTAS GRAVADOS (BANCO GER):'.
05 TOT003-GRAVADOS      PIC ZZZ.ZZ9.
05 FILLER                PIC X(07) VALUE SPACES.

```

PROCEDURE DIVISION.

```

*=====*
000-00-ROTINA-PRINCIPAL SECTION.
*=====*

```

```

PERFORM 001-00-ABRIR-ARQUIVOS.

PERFORM 002-00-OBTER-DATA-HORA.

PERFORM 003-00-VER-ARQS-VAZIOS.

PERFORM 004-00-TRATAR-ARQVOS UNTIL
CPF-ABC EQUAL HIGH-VALUES AND
CPF-XYZ EQUAL HIGH-VALUES.

PERFORM 005-00-IMPRIMIR-TOTAIS.

PERFORM 006-00-FECHAR-ARQUIVOS.

STOP RUN.

```

```

*=====*
001-00-ABRIR-ARQUIVOS SECTION.

```



```

=====
MOVE      FS-ABERTURA          TO      FS-OPERACAO.

OPEN      INPUT      CTCORABC
           CTORXYZ
           OUTPUT    CTCORGER
           RELATO.

PERFORM   001-01-TESTAR-FS.

001-00-FIM.                                EXIT.

=====
001-01-TESTAR-FS                          SECTION.
=====

PERFORM   001-02-FS-CTCORABC.

PERFORM   001-03-FS-CTCORXYZ.

PERFORM   001-04-FS-CTCORGER.

PERFORM   001-05-FS-RELATO.

001-01-FIM.                                EXIT.

=====
001-02-FS-CTCORABC                        SECTION.
=====

MOVE      'CTCORABC'          TO      FS-ARQUIVO.

MOVE      FS-CTCORABC         TO      FS-COD-STATUS.

IF  FS-CTCORABC      NOT EQUAL  '00' AND '10'
   PERFORM  900-00-ERRO
END-IF.

001-02-FIM.                                EXIT.

=====
001-03-FS-CTCORXYZ                        SECTION.
=====

MOVE      'CTCORXYZ'          TO      FS-ARQUIVO.

MOVE      FS-CTCORXYZ         TO      FS-COD-STATUS.

IF  FS-CTCORXYZ      NOT EQUAL  '00' AND '10'
   PERFORM  900-00-ERRO
END-IF.

001-03-FIM.                                EXIT.

=====
001-04-FS-CTCORGER                        SECTION.
=====

MOVE      'CTCORGER'          TO      FS-ARQUIVO.

MOVE      FS-CTCORGER         TO      FS-COD-STATUS.

IF  FS-CTCORGER      NOT EQUAL  '00' AND '10'
   PERFORM  900-00-ERRO
END-IF.

001-04-FIM.                                EXIT.

=====
001-05-FS-RELATO                          SECTION.
=====

MOVE      'RELATO'            TO      FS-ARQUIVO.

```

```

MOVE      FS-RELATO              TO      FS-COD-STATUS.

IF  FS-RELATO      NOT EQUAL  '00' AND '10'
    PERFORM  900-00-ERRO
END-IF.

001-05-FIM.                      EXIT.

*=====*
002-00-OBTER-DATA-HORA          SECTION.
*=====*

MOVE      FUNCTION CURRENT-DATE  TO      WS-DATA-HORARIO-SYS.

MOVE      WS-HORA-SYS            TO      CAB001-HORA.

MOVE      WS-MINUTO-SYS         TO      CAB001-MINUTO.

MOVE      WS-DIA-SYS            TO      CAB002-DIA.

MOVE      WS-MES-SYS            TO      CAB002-MES.

MOVE      WS-ANO-SYS            TO      CAB002-ANO.

002-00-FIM.                      EXIT.

*=====*
003-00-VER-ARQS-VAZIOS          SECTION.
*=====*

PERFORM      003-01-LER-CTCORABC.

IF  FS-CTCORABC      EQUAL      '10'
    DISPLAY '***** EXER0019 *****'
    DISPLAY '* * * * *'
    DISPLAY '*          ARQUIVO CTCORABC VAZIO * * * * *'
    DISPLAY '* * * * *'
    DISPLAY '*          PROGRAMA CANCELADO * * * * *'
    DISPLAY '* * * * *'
    DISPLAY '***** EXER0019 *****'
    PERFORM 006-00-FECHAR-ARQUIVOS
    STOP    RUN
END-IF.

PERFORM      003-02-LER-CTCORXYZ.

IF  FS-CTCORXYZ      EQUAL      '10'
    DISPLAY '***** EXER0019 *****'
    DISPLAY '* * * * *'
    DISPLAY '*          ARQUIVO CTCORXYZ VAZIO * * * * *'
    DISPLAY '* * * * *'
    DISPLAY '*          PROGRAMA CANCELADO * * * * *'
    DISPLAY '* * * * *'
    DISPLAY '***** EXER0019 *****'
    PERFORM 006-00-FECHAR-ARQUIVOS
    STOP    RUN
END-IF.

003-00-FIM.                      EXIT.

*=====*
003-01-LER-CTCORABC            SECTION.
*=====*

MOVE      FS-LEITURA           TO      FS-OPERACAO.

READ      CTCORABC.

IF  FS-CTCORABC      NOT EQUAL  '10'
    PERFORM 001-02-FS-CTCORABC
    ADD    1              TO      ACUM-LIDOS-ABC
ELSE
    MOVE   HIGH-VALUES        TO      CPF-ABC

```

END-IF.

003-01-FIM. EXIT.

003-02-LER-CTCORXYZ SECTION.

```
MOVE FS-LEITURA TO FS-OPERACAO.
READ CTCORXYZ.
IF FS-CTCORXYZ NOT EQUAL '10'
  PERFORM 001-03-FS-CTCORXYZ
  ADD 1 TO ACUM-LIDOS-XYZ
ELSE
  MOVE HIGH-VALUES TO CPF-XYZ
END-IF.
```

003-02-FIM. EXIT.

004-00-TRATAR-ARQVOS SECTION.

```
MOVE FS-GRAVACAO TO FS-OPERACAO.
IF CPF-ABC EQUAL CPF-XYZ
  PERFORM 004-01-VER-DATA
  PERFORM 004-08-GRAVAR-CTCORGER
  PERFORM 003-01-LER-CTCORABC
  PERFORM 003-02-LER-CTCORXYZ
ELSE
  IF CPF-ABC LESS CPF-XYZ
    PERFORM 004-03-GRAVAR-GER-ABC
    PERFORM 003-01-LER-CTCORABC
  ELSE
    PERFORM 004-02-GRAVAR-GER-XYZ
    PERFORM 003-02-LER-CTCORXYZ
  END-IF
END-IF.
```

004-00-FIM. EXIT.

004-01-VER-DATA SECTION.

```
MOVE DIA-ABC TO WS-DIA-INV-ABC.
MOVE MES-ABC TO WS-MES-INV-ABC.
MOVE ANO-ABC TO WS-ANO-INV-ABC.
MOVE DIA-XYZ TO WS-DIA-INV-XYZ.
MOVE MES-XYZ TO WS-MES-INV-XYZ.
MOVE ANO-XYZ TO WS-ANO-INV-XYZ.
IF (WS-DATA-INV-ABC LESS WS-DATA-INV-XYZ) OR
   (WS-DATA-INV-ABC EQUAL WS-DATA-INV-XYZ)
  PERFORM 004-06-MOVER-ABC
ELSE
  PERFORM 004-07-MOVER-XYZ
END-IF.
```

004-01-FIM. EXIT.

004-02-GRAVAR-GER-XYZ SECTION.

PERFORM 004-07-MOVER-XYZ.

```

PERFORM      004-08-GRAVAR-CTCORGER.

004-02-FIM.                                EXIT.

*=====*
004-03-GRAVAR-GER-ABC                      SECTION.
*=====*

PERFORM      004-06-MOVER-ABC.

PERFORM      004-08-GRAVAR-CTCORGER.

004-03-FIM.                                EXIT.

*=====*
004-04-IMPRESSAO                          SECTION.
*=====*

IF ACUM-LINHAS GREATER 59
  PERFORM 004-05-CABECALHO
END-IF.

MOVE CPF-GER-NUM TO DET001-CPF-NUM.
MOVE CPF-GER-DIG TO DET001-CPF-DIG.
MOVE NOME-GER TO DET001-NOME.
MOVE BCO-GER TO DET001-BCO.
WRITE REG-RELATO FROM DET001 AFTER 1.

PERFORM      001-05-FS-RELATO.

ADD 1 TO ACUM-LINHAS.

004-04-FIM.                                EXIT.

*=====*
004-05-CABECALHO                          SECTION.
*=====*

ADD 1 TO ACUM-PAG.
MOVE ACUM-PAG TO CAB001-PAG.
WRITE REG-RELATO FROM CAB001 AFTER PAGE.

PERFORM      001-05-FS-RELATO.

WRITE REG-RELATO FROM CAB002 AFTER 1.

PERFORM      001-05-FS-RELATO.

WRITE REG-RELATO FROM CAB003 AFTER 2.

PERFORM      001-05-FS-RELATO.

WRITE REG-RELATO FROM CAB004 AFTER 2.

PERFORM      001-05-FS-RELATO.

WRITE REG-RELATO FROM CAB005 AFTER 1.

PERFORM      001-05-FS-RELATO.

WRITE REG-RELATO FROM CAB004 AFTER 1.

PERFORM      001-05-FS-RELATO.

MOVE SPACES TO REG-RELATO.

WRITE REG-RELATO AFTER 1.

```

```

PERFORM      001-05-FS-RELATO.

MOVE      09                                TO      ACUM-LINHAS.

004-05-FIM.                                EXIT.

*=====*
004-06-MOVER-ABC                            SECTION.
*=====*

MOVE      CPF-ABC                            TO      CPF-GER.
MOVE      NOME-ABC                           TO      NOME-GER.
MOVE      'ABC'                              TO      BCO-GER.

004-06-FIM.                                EXIT.

*=====*
004-07-MOVER-XYZ                            SECTION.
*=====*

MOVE      CPF-XYZ                            TO      CPF-GER
MOVE      NOME-XYZ                           TO      NOME-GER
MOVE      'XYZ'                              TO      BCO-GER.

004-07-FIM.                                EXIT.

*=====*
004-08-GRAVAR-CTCORGER                      SECTION.
*=====*

IF CPF-GER      NOT EQUAL WS-CPF-GRAV
PERFORM 004-04-IMPRESSAO
WRITE REG-CTCORGER
ADD      1                                TO      ACUM-GRAVADOS
MOVE CPF-GER      TO      WS-CPF-GRAV
END-IF.

004-08-FIM.                                EXIT.

*=====*
005-00-IMPRIMIR-TOTAIS                      SECTION.
*=====*

IF ACUM-LINHAS      GREATER      58
PERFORM 004-05-CABECALHO
END-IF.

MOVE      ACUM-LIDOS-ABC                      TO      TOT001-LIDOS-ABC.
MOVE      ACUM-LIDOS-XYZ                     TO      TOT002-LIDOS-XYZ.
MOVE      ACUM-GRAVADOS                       TO      TOT003-GRAVADOS.
WRITE REG-RELATO                                FROM      TOT001 AFTER      2.

PERFORM      001-05-FS-RELATO.

WRITE REG-RELATO                                FROM      TOT002 AFTER      1.

PERFORM      001-05-FS-RELATO.

WRITE REG-RELATO                                FROM      TOT003 AFTER      1.

PERFORM      001-05-FS-RELATO.

005-00-FIM.                                EXIT.

*=====*
006-00-FECHAR-ARQUIVOS                      SECTION.

```

```
*=====*
```

```
MOVE    FS-FECHAMENTO      TO      FS-OPERACAO.
```

```
CLOSE   CTCORABC  
        CTCORXYZ  
        CTCORGER.
```

```
PERFORM      001-01-TESTAR-FS.
```

```
006-00-FIM.                EXIT.
```

```
*=====*
```

```
900-00-ERRO                SECTION.
```

```
*=====*
```

```
DISPLAY '***** EXER0019 *****'  
DISPLAY '*                               *'  
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'  
DISPLAY '*                               *'  
DISPLAY '* FILE STATUS = ' FS-COD-STATUS  
        '*                               *'  
DISPLAY '*                               *'  
DISPLAY '* PROGRAMA ENCERRADO'  
        '*                               *'  
DISPLAY '*                               *'  
DISPLAY '***** EXER0019 *****'  
STOP    RUN.
```

```
900-00-FIM.                EXIT.
```

20 Exercício 20 – EXER0020

```

IDENTIFICATION          DIVISION.
PROGRAM-ID.             EXER0020.
AUTHOR.                FUTURE SCHOOL CURSOS DE COMPUTACAO.
*
* EMITIR RELATORIO DE SALARIOS ACUMULADOS POR DEPARTAMENTO
*
ENVIRONMENT             DIVISION.
CONFIGURATION           SECTION.
SPECIAL-NAMES.
                        DECIMAL-POINT IS COMMA.
*
INPUT-OUTPUT           SECTION.
FILE-CONTROL.
    SELECT CADFUN       ASSIGN TO UT-S-CADFUN
    FILE STATUS         IS      FS-CADFUN.
*
    SELECT ARQSAL       ASSIGN TO UT-S-ARQSAL
    FILE STATUS         IS      FS-ARQSAL.
*
    SELECT RELATO       ASSIGN TO UR-S-RELATO
    FILE STATUS         IS      FS-RELATO.
*
DATA                   DIVISION.
FILE                   SECTION.
*
FD CADFUN
RECORD                 CONTAINS 70 CHARACTERS
RECORDING              MODE     IS F
LABEL                  RECORD    IS STANDARD
DATA                   RECORD    IS REG-CADFUN.
01 REG-CADFUN.
05 COD-FUNC            PIC 9(04).
05 NOME-FUNC           PIC X(30).
05 DATADM-FUNC.
    10 DIAADM-FUNC     PIC 9(02).
    10 MESADM-FUNC     PIC 9(02).
    10 ANOADM-FUNC     PIC 9(04).
05 FILLER              PIC X.
05 GRAU-FUNC           PIC 9(02).
05 DEPTO-FUNC          PIC 9(05).
05 SAL-FUNC            PIC 9(05)V99.
05 FILLER              PIC X(13).
*
FD ARQSAL
RECORD                 CONTAINS 20 CHARACTERS
RECORDING              MODE     IS F
LABEL                  RECORD    IS STANDARD
DATA                   RECORD    IS REG-ARQSAL.
01 REG-ARQSAL.
05 DEPTO-SAL           PIC 9(05).
05 SALARIO             PIC 9(07)V99.
05 FILLER              PIC X(06).
*
FD RELATO
RECORD                 CONTAINS 94 CHARACTERS
RECORDING              MODE     IS F
LABEL                  RECORD    IS OMITTED
DATA                   RECORD    IS REG-RELATO.
01 REG-RELATO          PIC X(94).
*
WORKING-STORAGE        SECTION.
*
* AREAS PARA OBTER DATA E HORA DO SISTEMA
*
01 WS-DATA-HORARIO-SYS.
05 WS-DATA-SYS.
    10 WS-ANO-SYS      PIC 9(04) VALUE ZEROS.
    10 WS-MES-SYS      PIC 9(02) VALUE ZEROS.
    10 WS-DIA-SYS      PIC 9(02) VALUE ZEROS.
05 WS-HORARIO-SYS.

```

```

10 WS-HORA-SYS          PIC 9(02) VALUE ZEROS.
10 WS-MINUTO-SYS       PIC 9(02) VALUE ZEROS.
05 FILLER              PIC X(09) VALUE SPACES.
*
* AREA PARA DEFINIR QUEBRAS
*
01 WS-DEPTO-ANT        PIC 9(05) VALUE ZEROS.
*
* AREA PARA DEFINIR ACUMULADORES
*
77 ACUM-PAG           PIC 9(04) VALUE ZEROS.
77 ACUM-LINHAS       PIC 9(02) VALUE 99.
77 ACUM-SAL-DEPTO    PIC 9(07)V99 VALUE ZEROS.
77 ACUM-SAL-GERAL    PIC 9(08)V99 VALUE ZEROS.
*
* AREA PARA DEFINIR FILE STATUS
*
77 FS-CADFUN         PIC X(02) VALUE SPACES.
77 FS-ARQSAL        PIC X(02) VALUE SPACES.
77 FS-RELATO        PIC X(02) VALUE SPACES.
77 FS-ARQUIVO       PIC X(08) VALUE SPACES.
77 FS-COD-STATUS    PIC X(02) VALUE SPACES.

77 FS-OPERACAO      PIC X(13) VALUE SPACES.

77 FS-OPERACAO      PIC X(13) VALUE SPACES.
77 FS-ABERTURA     PIC X(13) VALUE 'NA ABERTURA'.
77 FS-LEITURA      PIC X(13) VALUE 'NA LEITURA'.
77 FS-GRAVACAO     PIC X(13) VALUE 'NA GRAVACAO'.
77 FS-FECHAMENTO    PIC X(13) VALUE 'NO FECHAMENTO'.
*
* AREA PARA DEFINIR TABELAS INTERNAS
*
01 TABELA-INTERNA-GRAU.
05 TAB-GRAU.
10 FILLER PIC X(23) VALUE '01PRIM. GRAU INCOMPLETO'.
10 FILLER PIC X(23) VALUE '02PRIM. GRAU COMPLETO '.
10 FILLER PIC X(23) VALUE '03SEG. GRAU INCOMPLETO '.
10 FILLER PIC X(23) VALUE '04SEG. GRAU COMPLETO '.
10 FILLER PIC X(23) VALUE '05SUPERIOR INCOMPLETO '.
10 FILLER PIC X(23) VALUE '06SUPERIOR COMPLETO '.
05 TAB-GRAU-R REDEFINES TAB-GRAU OCCURS 6.
10 INDICE PIC 9(02).
10 FORMACAO PIC X(21).
*
01 TABELA-INTERNA-MESES.
05 TAB-MESES.
10 FILLER PIC X(09) VALUE 'JANEIRO'.
10 FILLER PIC X(09) VALUE 'FEVEREIRO'.
10 FILLER PIC X(09) VALUE 'MARCO'.
10 FILLER PIC X(09) VALUE 'ABRIL'.
10 FILLER PIC X(09) VALUE 'MAIO'.
10 FILLER PIC X(09) VALUE 'JUNHO'.
10 FILLER PIC X(09) VALUE 'JULHO'.
10 FILLER PIC X(09) VALUE 'AGOSTO'.
10 FILLER PIC X(09) VALUE 'SETEMBRO'.
10 FILLER PIC X(09) VALUE 'OUTUBRO'.
10 FILLER PIC X(09) VALUE 'NOVEMBRO'.
10 FILLER PIC X(09) VALUE 'DEZEMBRO'.
05 TAB-MESES-R REDEFINES TAB-MESES OCCURS 12.
10 MES PIC X(09).
*
* AREA PARA DEFINIR INDEXADORES PARA TABELAS INTERNAS
*
01 X PIC 9(02) VALUE 0.
*
* AREA PARA DEFINIR LINHAS DO RELATORIO
*
01 CAB001.
05 FILLER PIC X(57) VALUE
'FUTURE SCHOOL CURSOS DE COMPUTACAO'.
05 CAB001-HORA PIC 99.
05 FILLER PIC X VALUE ':'.
05 CAB001-MINUTO PIC 99.

```



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05 FILLER PIC X(20) VALUE SPACES.
05 FILLER PIC X(07) VALUE 'PAGINA '.
05 CAB001-PAG PIC Z.ZZ9.
*
01 CAB002.
05 FILLER PIC X(77) VALUE
   'PROGRAMA = EXEMTABE'.
05 CAB002-DIA PIC 99/.
05 CAB002-MES PIC X(09).
05 CAB002-ANO PIC /9999.
*
01 CAB003.
05 FILLER PIC X(24) VALUE SPACES.
05 FILLER PIC X(70) VALUE
   'LISTAGEM DO CADASTRO DE FUNCIONARIOS POR DEPTO'.
*
01 CAB004.
05 FILLER PIC X(35) VALUE SPACES.
05 FILLER PIC X(59) VALUE
   '(ACUMULADO POR SALARIOS)'.
*
01 CAB005.
05 FILLER PIC X(94) VALUE ALL '='.
*
01 CAB006.
05 FILLER PIC X(54) VALUE
   'DEPTO CODIGO DO NOME DO'.
05 FILLER PIC X(25) VALUE 'DATA'.
05 FILLER PIC X(15) VALUE 'GRAU DE'.
*
01 CAB007.
05 FILLER PIC X(52) VALUE
   ' FUNCIONARIO FUNCIONARIO'.
05 FILLER PIC X(42) VALUE
   'ADMISSAO SALARIO INSTRUCAO'.
*
01 DET001.
05 DET001-DEPTO PIC 9(05).
05 FILLER PIC X(05) VALUE SPACES.
05 DET001-CODIGO PIC 9(04).
05 FILLER PIC X(05) VALUE SPACES.
05 DET001-NOME PIC X(30).
05 FILLER PIC X(02) VALUE SPACES.
05 DET001-DIAADM PIC 99/.
05 DET001-MESADM PIC 99/.
05 DET001-ANOADM PIC 9999.
05 FILLER PIC X(02) VALUE SPACES.
05 DET001-SAL PIC ZZ.ZZ9,99.
05 FILLER PIC X VALUE SPACES.
05 DET001-FORM PIC X(21).
*
01 TOT001.
05 FILLER PIC X(20) VALUE SPACES.
05 FILLER PIC X(40) VALUE
   '* TOTAL ACUMULADO DE SALARIO'.
05 TOT001-SALARIO PIC Z.ZZZ.ZZ9,99.
05 FILLER PIC X(22) VALUE SPACES.
*
01 TOT002.
05 FILLER PIC X(20) VALUE SPACES.
05 FILLER PIC X(39) VALUE
   '** TOTAL GERAL DE SALARIO ACUMULADO'.
05 TOT002-SALARIO PIC ZZ.ZZZ.ZZ9,99.
05 FILLER PIC X(22) VALUE SPACES.
*
PROCEDURE DIVISION.
=====
000-00-ROTINA-PRINCIPAL SECTION.
=====
PERFORM 001-00-ABRIR-ARQUIVOS.
PERFORM 002-00-OBTER-DATA-HORA.

```

```

PERFORM      003-00-PRIMEIRA-LEITURA.

PERFORM      004-00-TRATAR-CADFUN  UNTIL
FS-CADFUN   EQUAL  '10'.

PERFORM      005-00-TOTALIZACAO.

PERFORM      006-00-FECHAR-ARQUIVOS.

STOP        RUN.

=====
000-00-FIM.                EXIT.
=====

=====
001-00-ABRIR-ARQUIVOS     SECTION.
=====

MOVE        FS-ABERTURA           TO      FS-OPERACAO.

OPEN        INPUT  CADFUN
            OUTPUT ARQSAL
            RELATO.

PERFORM      001-01-TESTAR-FS.

001-00-FIM.                EXIT.

=====
001-01-TESTAR-FS         SECTION.
=====

PERFORM      001-02-TESTAR-FS-CADFUN.

PERFORM      001-03-TESTAR-FS-ARQSAL.

PERFORM      001-04-TESTAR-FS-RELATO.

001-01-FIM.                EXIT.

=====
001-02-TESTAR-FS-CADFUN SECTION.
=====

MOVE        'CADFUN'              TO      FS-ARQUIVO.

MOVE        FS-CADFUN              TO      FS-COD-STATUS.

IF  FS-CADFUN      NOT EQUAL  '00' AND '10'
    PERFORM  900-00-ERRO
END-IF.

001-02-FIM.                EXIT.

=====
001-03-TESTAR-FS-ARQSAL SECTION.
=====

MOVE        'ARQSAL'              TO      FS-ARQUIVO.

MOVE        FS-ARQSAL              TO      FS-COD-STATUS.

IF  FS-ARQSAL      NOT EQUAL  '00' AND '10'
    PERFORM  900-00-ERRO
END-IF.

001-03-FIM.                EXIT.

=====
001-04-TESTAR-FS-RELATO SECTION.
=====

```

```

MOVE      'RELATO'                TO      FS-ARQUIVO.

MOVE      FS-RELATO                TO      FS-COD-STATUS.

IF  FS-RELATO      NOT EQUAL  '00' AND '10'
  PERFORM  900-00-ERRO
END-IF.

001-04-FIM.                        EXIT.

*=====*
002-00-OBTER-DATA-HORA              SECTION.
*=====*

MOVE      FUNCTION CURRENT-DATE    TO      WS-DATA-HORARIO-SYS.

MOVE      WS-HORA-SYS              TO      CAB001-HORA.

MOVE      WS-MINUTO-SYS            TO      CAB001-MINUTO.

MOVE      WS-DIA-SYS               TO      CAB002-DIA.

MOVE      MES (WS-MES-SYS)         TO      CAB002-MES.

MOVE      WS-ANO-SYS              TO      CAB002-ANO.

002-00-FIM.                        EXIT.

*=====*
003-00-PRIMEIRA-LEITURA            SECTION.
*=====*

PERFORM  003-01-LER-CADFUN.

IF  FS-CADFUN      EQUAL  '10'
  DISPLAY '***** EXER0020 *****'
  DISPLAY '*                                     *!'
  DISPLAY '*          ARQUIVO CADFUN VAZIO          *!'
  DISPLAY '*                                     *!'
  DISPLAY '*          PROGRAMA CANCELADO           *!'
  DISPLAY '*                                     *!'
  DISPLAY '***** EXER0020 *****'
  PERFORM 006-00-FECHAR-ARQUIVOS
  STOP    RUN
END-IF.

MOVE      DEPTO-FUNC                TO      WS-DEPTO-ANT.

003-00-FIM.                        EXIT.

*=====*
003-01-LER-CADFUN                  SECTION.
*=====*

READ      CADFUN

MOVE      FS-LEITURA                TO      FS-OPERACAO.

IF  FS-CADFUN      NOT EQUAL  '10'
  PERFORM 001-02-TESTAR-FS-CADFUN
END-IF.

003-01-FIM.                        EXIT.

*=====*
004-00-TRATAR-CADFUN              SECTION.
*=====*

IF  DEPTO-FUNC      NOT EQUAL  WS-DEPTO-ANT
  PERFORM 004-05-SAL-DEPTO
END-IF.

```

```

PERFORM      004-01-IMPRESSAO.

PERFORM      004-04-ACUM-VALORES.

PERFORM      003-01-LER-CADFUN.

004-00-FIM.                                EXIT.

*====*
004-01-IMPRESSAO                          SECTION.
*====*

MOVE      FS-GRAVACAO                      TO      FS-OPERACAO.

IF ACUM-LINHAS      GREATER      59
  PERFORM 004-02-CABECALHOS
END-IF.

MOVE      DEPTO-FUNC                      TO      DET001-DEPTO.

MOVE      COD-FUNC                        TO      DET001-CODIGO.

MOVE      NOME-FUNC                       TO      DET001-NOME.

MOVE      DIAADM-FUNC                     TO      DET001-DIAADM.

MOVE      MESADM-FUNC                     TO      DET001-MESADM.

MOVE      ANOADM-FUNC                     TO      DET001-ANOADM.

MOVE      SAL-FUNC                        TO      DET001-SAL.

MOVE      SPACES                          TO      DET001-FORM.

PERFORM      004-03-FORMACAO      VARYING
  X FROM      1 BY 1 UNTIL X GREATER 6.

IF DET001-FORM      EQUAL      SPACES
  MOVE      '** FORMACAO INVALIDA' TO DET001-FORM
END-IF.

WRITE      REG-RELATO                      FROM      DET001 AFTER 1.

PERFORM      001-04-TESTAR-FS-RELATO.

ADD      1                                TO      ACUM-LINHAS.

004-01-FIM.                                EXIT.

*====*
004-02-CABECALHOS                          SECTION.
*====*

ADD      1                                TO      ACUM-PAG.

MOVE      ACUM-PAG                        TO      CAB001-PAG.

WRITE      REG-RELATO                      FROM      CAB001 AFTER PAGE.

PERFORM      001-04-TESTAR-FS-RELATO.

WRITE      REG-RELATO                      FROM      CAB002 AFTER 1.

PERFORM      001-04-TESTAR-FS-RELATO.

WRITE      REG-RELATO                      FROM      CAB003 AFTER 2.

PERFORM      001-04-TESTAR-FS-RELATO.

WRITE      REG-RELATO                      FROM      CAB004 AFTER 1.

PERFORM      001-04-TESTAR-FS-RELATO.

WRITE      REG-RELATO                      FROM      CAB005 AFTER 2.

```

```

PERFORM      001-04-TESTAR-FS-RELATO.

WRITE  REG-RELATO          FROM  CAB006  AFTER  1.

PERFORM      001-04-TESTAR-FS-RELATO.

WRITE  REG-RELATO          FROM  CAB007  AFTER  1.

PERFORM      001-04-TESTAR-FS-RELATO.

WRITE  REG-RELATO          FROM  CAB005  AFTER  1.

PERFORM      001-04-TESTAR-FS-RELATO.

MOVE    SPACES              TO      REG-RELATO.

WRITE  REG-RELATO          AFTER  1.

PERFORM      001-04-TESTAR-FS-RELATO.

MOVE    11                  TO      ACUM-LINHAS.

004-02-FIM.                EXIT.

*====*
004-03-FORMACAO            SECTION.
*====*

IF  GRAU-FUNC      EQUAL      INDICE(X)
  MOVE  FORMACAO(X)  TO      DET001-FORM
  MOVE  7           TO      X
END-IF.

004-03-FIM.                EXIT.

*====*
004-04-ACUM-VALORES      SECTION.
*====*

COMPUTE ACUM-SAL-DEPTO = ACUM-SAL-DEPTO + SAL-FUNC.

COMPUTE ACUM-SAL-GERAL = ACUM-SAL-GERAL + SAL-FUNC.

004-04-FIM.                EXIT.

*====*
004-05-SAL-DEPTO        SECTION.
*====*

MOVE  FS-GRAVACAO      TO      FS-OPERACAO.

MOVE  WS-DEPTO-ANT     TO      DEPTO-SAL.

MOVE  ACUM-SAL-DEPTO   TO      SALARIO
                                     TOT001-SALARIO.

WRITE  REG-ARQSAL.

PERFORM      001-03-TESTAR-FS-ARQSAL.

IF  ACUM-LINHAS      GREATER   59
  PERFORM 004-02-CABECALHOS
END-IF.

WRITE  REG-RELATO          FROM  TOT001  AFTER  2.

PERFORM      001-04-TESTAR-FS-RELATO.

MOVE    SPACES              TO      REG-RELATO.

WRITE  REG-RELATO          AFTER  1.

```

```

PERFORM      001-04-TESTAR-FS-RELATO.

ADD          3                                TO      ACUM-LINHAS.

MOVE        DEPTO-FUNC                       TO      WS-DEPTO-ANT.

MOVE        ZEROS                            TO      ACUM-SAL-DEPTO.

004-05-FIM.                                EXIT.

*====*
005-00-TOTALIZACAO                        SECTION.
*====*

PERFORM      004-05-SAL-DEPTO.

MOVE        ACUM-SAL-GERAL                   TO      TOT002-SALARIO.

IF ACUM-LINHAS GREATER 59
  PERFORM 004-02-CABECALHOS
END-IF.

WRITE      REG-RELATO                       FROM    TOT002 AFTER 1.

PERFORM      001-04-TESTAR-FS-RELATO.

005-00-FIM.                                EXIT.

*====*
006-00-FECHAR-ARQUIVOS                    SECTION.
*====*

MOVE        FS-FECHAMENTO                     TO      FS-OPERACAO.

CLOSE      CADFUN
           ARQSAL
           RELATO.

PERFORM      001-01-TESTAR-FS.

006-00-FIM.                                EXIT.

*====*
900-00-ERRO                                SECTION.
*====*

DISPLAY '***** EXER0020 *****'
DISPLAY '* *'
DISPLAY '* ERRO ' FS-OPERACAO ' DO ARQUIVO ' FS-ARQUIVO ' *'
DISPLAY '* *'
DISPLAY '* FILE STATUS = ' FS-COD-STATUS
           *'

DISPLAY '* *'
DISPLAY '* PROGRAMA ENCERRADO'
           *'

DISPLAY '* *'
DISPLAY '***** EXER0020 *****'
STOP      RUN.

900-00-FIM.                                EXIT.

```