
IDENTIFICATION DIVISION.

PROGRAM-ID. ASSIGNMENT1.
AUTHOR. MICHEAL MCCABE.

ENVIRONMENT DIVISION.**INPUT-OUTPUT SECTION.****FILE-CONTROL.**

SELECT ACCOUNT-MASTER ASSIGN TO 'CH0403.TXT'.
SELECT ELEC-BILL-FILE ASSIGN TO 'ELECTR.DAT'.
SELECT GAS-BILL-FILE ASSIGN TO 'GASSER.DAT'.

DATA DIVISION.**FILE SECTION.****FD ACCOUNT-MASTER.****01 MASTER-RECORD.**

05 ACCOUNT-NO-IN PIC X(5).
05 CUSTOMER-NAME-IN PIC X(20).
05 ADDRESS-IN PIC X(20).
05 KWH-ELECTRICITY-IN PIC 9(5).
05 CU-FT-GAS-IN PIC 9(5).
05 ELEC-BILL-IN PIC 999V99.
05 GAS-BILL-IN PIC 999V99.

FD ELEC-BILL-FILE.**01 ELECTRIC-BILL-RECORD.**

05 ACCOUNT-NO-OUT-E PIC X(5).
05 CUSTOMER-NAME-OUT-E PIC X(20).
05 ADDRESS-OUT-E PIC X(20).
05 KWH-ELECTRICITY-OUT PIC 9(5).
05 ELEC-BILL-OUT PIC 999V99.

FD GAS-BILL-FILE.**01 GAS-BILL-RECORD.**

05 ACCOUNT-NO-OUT-G PIC X(5).

```
05 CUSTOMER-NAME-OUT-G      PIC X(20).  
05 ADDRESS-OUT-G           PIC X(20).  
05 CU-FT-GAS-OUT          PIC 9(5).  
05 GAS-BILL-OUT           PIC 999V99.
```

```
WORKING-STORAGE SECTION.
```

```
01 DONE-YET                PIC X VALUE 'N'.
```

```
PROCEDURE DIVISION.
```

```
100-MAIN-MODULE.
```

```
    OPEN INPUT ACCOUNT-MASTER  
      OUTPUT ELEC-BILL-FILE  
      OUTPUT GAS-BILL-FILE  
    PERFORM UNTIL DONE-YET='Y'  
      READ ACCOUNT-MASTER  
      AT END MOVE 'Y' TO DONE-YET  
      NOT AT END PERFORM 200-MOVER-ROUTINE  
    END-READ  
  END-PERFORM  
  CLOSE ACCOUNT-MASTER  
  CLOSE ELEC-BILL-FILE  
  CLOSE GAS-BILL-FILE  
  STOP RUN.
```

```
200-MOVER-ROUTINE.
```

```
    MOVE ACCOUNT-NO-IN TO ACCOUNT-NO-OUT-E  
    MOVE ACCOUNT-NO-IN TO ACCOUNT-NO-OUT-G  
      MOVE CUSTOMER-NAME-IN TO CUSTOMER-NAME-OUT-E  
      MOVE CUSTOMER-NAME-IN TO CUSTOMER-NAME-OUT-G  
      MOVE ADDRESS-IN TO ADDRESS-OUT-E  
      MOVE ADDRESS-IN TO ADDRESS-OUT-G  
      MOVE KWH-ELECTRICITY-IN TO KWH-ELECTRICITY-OUT  
      MOVE ELEC-BILL-IN TO ELEC-BILL-OUT  
      MOVE CU-FT-GAS-IN TO CU-FT-GAS-OUT  
      MOVE GAS-BILL-IN TO GAS-BILL-OUT  
    WRITE ELECTRIC-BILL-RECORD
```

WRITE GAS-BILL-RECORD.

IDENTIFICATION DIVISION.

PROGRAM-ID. ASSIGNMENT2.
AUTHOR. MICHEAL H MCCABE.
DATE-WRITTEN. FEBRUARY 14, 2012.

ENVIRONMENT DIVISION.

INPUT-OUTPUT SECTION.

FILE-CONTROL.

SELECT IN-EMPLOYEE-FILE ASSIGN TO 'CH0701.TXT'.
SELECT OUT-SALARY-FILE ASSIGN TO 'SALARY.OUT'.

DATA DIVISION.

FILE SECTION.

FD IN-EMPLOYEE-FILE.
01 EMPLOYEE-TIME-RECORD.
05 EMPLOYEE-NAME PIC X(15).
05 HOURS-WORKED PIC 999.
05 RATE PIC 9V99.

FD OUT-SALARY-FILE.
01 DETAIL-OUT.
05 EMPLOYEE-NAME-OUT PIC X(15).
05 GROSS-PAY-OUT PIC 9999V99.
05 FICA-OUT PIC 999V99.
05 NET-PAY-OUT PIC 9999V99.

WORKING-STORAGE SECTION.

01 ARE-THERE-MORE-RECORDS PIC XXX VALUE 'YES'.
01 TEMP-GROSS-PAY PIC 9999V99.
01 TEMP-FICA PIC 999V99.
01 TEMP-NET-PAY PIC 9999V99.

01	FICA-RATE	PIC 9V9999	VALUE 0.0765.
01	BLANK-LINE	PIC X(80)	VALUE SPACES.
01	USER-INPUT	PIC X	VALUE SPACES.
01	RUN-OPTION	PIC 9.	
01	ERRFLAG	PIC X	VALUE 'Y'.
01	WS-DATE.		
05	RUN-YEAR	PIC 9(4).	
05	RUN-MONTH	PIC 9(2).	
05	RUN-DAY	PIC 9(2).	
01	DSP-HEADER1.		
05	FILLER	PIC X(31)	VALUE SPACES.
05	FILLER	PIC X(15)	VALUE 'PAYROLL REPORT'.
05	FILLER	PIC X(22)	VALUE SPACES.
05	HEADER-MONTH	PIC 99.	
05	FILLER	PIC X	VALUE '/'.
05	HEADER-DAY	PIC 99.	
05	FILLER	PIC X	VALUE '/'.
05	HEADER-YEAR	PIC 9999.	
01	DSP-HEADER2.		
05	FILLER	PIC XX.	
05	FILLER	PIC X(15)	VALUE 'EMPLOYEE NAME '.
05	FILLER	PIC X(10)	VALUE SPACES.
05	FILLER	PIC X(10)	VALUE 'WORK HOURS'.
05	FILLER	PIC X(10)	VALUE 'PAY RATE '.
05	FILLER	PIC X(11)	VALUE 'GROSS PAY '.
05	FILLER	PIC X(11)	VALUE 'FICA '.
05	FILLER	PIC X(10)	VALUE 'NET PAY '.
01	DSP-DETAIL.		
05	FILLER	PIC XX.	
05	DSP-NAME	PIC X(15).	
05	FILLER	PIC X(13)	VALUE SPACES.
05	DSP-HOURS	PIC 999.	
05	FILLER	PIC X(7)	VALUE SPACES.
05	DSP-RATE	PIC \$\$.	99.

```
05 FILLER PIC X(4) VALUE SPACES.  
05 DSP-GROSS PIC $$$$.99.  
05 FILLER PIC X(4) VALUE SPACES.  
05 DSP-FICA PIC $$$$.99.  
05 FILLER PIC X(5) VALUE SPACES.  
05 DSP-NET PIC $$$$.99.
```

```
*****
```

```
PROCEDURE DIVISION.
```

```
100-MAIN-MODULE.
```

```
PERFORM UNTIL ERRFLAG = "N"  
    PERFORM 300-DISPLAY-MENU  
END-PERFORM
```

```
    IF RUN-OPTION = 1  
        PERFORM 400-PRINT-ROUTINE  
    END-IF
```

```
    IF RUN-OPTION = 2  
        PERFORM 500-DISK-ROUTINE  
    END-IF
```

```
    IF RUN-OPTION = 3  
        PERFORM 400-PRINT-ROUTINE  
        MOVE 'YES' TO ARE-THERE-MORE-RECORDS  
        PERFORM 500-DISK-ROUTINE  
    END-IF  
    DISPLAY BLANK-LINE  
    DISPLAY "END PROGRAM."  
    DISPLAY BLANK-LINE  
    STOP RUN.
```

```
*-----*
```

```
200-COMPUTE-SALARY.
```

```
MOVE SPACES TO DETAIL-OUT
MOVE EMPLOYEE-NAME TO EMPLOYEE-NAME-OUT
MULTIPLY HOURS-WORKED BY RATE GIVING TEMP-GROSS-PAY
MULTIPLY TEMP-GROSS-PAY BY FICA-RATE GIVING TEMP-FICA
SUBTRACT TEMP-FICA FROM TEMP-GROSS-PAY GIVING TEMP-NET-PAY
MOVE TEMP-GROSS-PAY TO GROSS-PAY-OUT
MOVE TEMP-FICA TO FICA-OUT
MOVE TEMP-NET-PAY TO NET-PAY-OUT
WRITE DETAIL-OUT.
```

```
*-----*
```

250-COMPUTE-SALARY.

```
MOVE SPACES TO DSP-DETAIL
MOVE EMPLOYEE-NAME TO DSP-NAME
MOVE HOURS-WORKED TO DSP-HOURS
MOVE RATE TO DSP-RATE
MULTIPLY HOURS-WORKED BY RATE GIVING TEMP-GROSS-PAY
MULTIPLY TEMP-GROSS-PAY BY FICA-RATE GIVING TEMP-FICA
SUBTRACT TEMP-FICA FROM TEMP-GROSS-PAY GIVING TEMP-NET-PAY
MOVE TEMP-GROSS-PAY TO DSP-GROSS
MOVE TEMP-FICA TO DSP-FICA
MOVE TEMP-NET-PAY TO DSP-NET
DISPLAY DSP-DETAIL.
```

```
*-----*
```

300-DISPLAY-MENU.

```
DISPLAY BLANK-LINE
DISPLAY "ASSIGNMENT2"
DISPLAY "MICHEAL H. MCCABE"
DISPLAY "FEBRUARY 14, 2012"
DISPLAY BLANK-LINE
DISPLAY "PROGRAM OPTIONS:"
DISPLAY BLANK-LINE
DISPLAY "      1. PRINT A REPORT OF EMPLOYEE SALARIES"
DISPLAY "      2. GENERATE A DISK FILE OF EMPLOYEE SALARIES"
DISPLAY "      3. DO BOTH"
```

```
      DISPLAY "      4. QUIT WITHOUT DOING ANYTHING."  
      DISPLAY BLANK-LINE  
      DISPLAY "PLEASE ENTER YOUR SELECTION(1-4):"  
      ACCEPT USER-INPUT  
      DISPLAY BLANK-LINE  
      MOVE FUNCTION NUMVAL(USER-INPUT) TO RUN-OPTION  
      IF RUN-OPTION <1 OR RUN-OPTION>4 MOVE 'Y' TO ERRFLAG  
      ELSE MOVE 'N' TO ERRFLAG  
      END-IF.
```

```
*-----*
```

400-PRINT-ROUTINE.

```
      MOVE FUNCTION CURRENT-DATE TO WS-DATE  
      MOVE RUN-MONTH TO HEADER-MONTH  
      MOVE RUN-DAY TO HEADER-DAY  
      MOVE RUN-YEAR TO HEADER-YEAR  
      DISPLAY DSP-HEADER1  
      DISPLAY BLANK-LINE  
      DISPLAY DSP-HEADER2  
      DISPLAY BLANK-LINE  
      OPEN INPUT IN-EMPLOYEE-FILE  
      PERFORM UNTIL ARE-THERE-MORE-RECORDS = 'NO '  
        READ IN-EMPLOYEE-FILE  
        AT END MOVE 'NO ' TO ARE-THERE-MORE-RECORDS  
        NOT AT END PERFORM 250-COMPUTE-SALARY  
      END-READ  
      END-PERFORM  
      CLOSE IN-EMPLOYEE-FILE.
```

```
*-----*
```

500-DISK-ROUTINE.

```
      OPEN INPUT IN-EMPLOYEE-FILE  
      OPEN OUTPUT OUT-SALARY-FILE  
      PERFORM UNTIL ARE-THERE-MORE-RECORDS = 'NO '  
        READ IN-EMPLOYEE-FILE  
        AT END MOVE 'NO ' TO ARE-THERE-MORE-RECORDS
```

```
      NOT AT END PERFORM 200-COMPUTE-SALARY  
      END-READ  
      END-PERFORM  
      CLOSE IN-EMPLOYEE-FILE  
      CLOSE OUT-SALARY-FILE.
```

Identification Division.

Program-ID. Assign3.
Author. Micheal McCabe.
Date-Written. March 9, 2012.

Environment Division.

Input-Output Section.

File-Control.

Select POPULATION-MASTER-FILE Assign to 'CH1003.TXT'.
Select POPULATION-REPORT Assign to 'POPULATION-REPORT.LST'.

Data Division.

File Section.

FD POPULATION-MASTER-FILE
LABEL RECORDS ARE OMITTED
RECORD CONTAINS 12 CHARACTERS.

01 POPULATION-RECORD.
05 STATE-NO PIC XX.
05 COUNTY-NO PIC XX.
05 DISTRICT-NO PIC XX.
05 POPULATION PIC 9(6).

FD POPULATION-REPORT
LABEL RECORDS ARE OMITTED
RECORD CONTAINS 80 CHARACTERS.

01 PRINT-BUFFER PIC X(80).

WORKING-STORAGE SECTION.

```
01 POP-DETAIL-RECORD.  
05 FILLER PIC X(22) VALUE SPACES.  
05 STATE-ID PIC XX.  
05 FILLER PIC X(16) VALUE SPACES.  
05 STATE-POPULATION PIC ZZ,ZZZ,ZZZ.  
05 FILLER PIC X(30) VALUE SPACES.  
  
01 POP-SUMMARY-RECORD.  
05 FILLER PIC X(40) VALUE SPACES.  
05 LABEL-TEXT PIC X(20) VALUE 'TOTAL USA POPULATION'.  
05 SUMMARY-USA-TOTAL PIC ZZZ,ZZZ,ZZZ.  
05 FILLER PIC X(7) VALUE SPACES.  
  
01 HEADER1.  
05 FILLER PIC X(40) VALUE SPACES.  
05 FILLER PIC X(17) VALUE 'POPULATION REPORT'.  
05 FILLER PIC XX VALUE SPACES.  
05 REPORT-DATE.  
10 RPT-MONTH PIC XX.  
10 FILLER PIC X VALUE '/'.  
10 RPT-DAY PIC XX.  
10 FILLER PIC X VALUE '/'.  
10 RPT-YEAR PIC XXXX.  
05 FILLER PIC X(5).  
05 FILLER PIC X(5) VALUE 'PAGE '.  
05 PAGE-NO PIC X.  
  
01 HEADER2.  
05 FILLER PIC X(19) VALUE SPACES.  
05 FILLER PIC X(8) VALUE 'STATE NO'.  
05 FILLER PIC X(13) VALUE SPACES.  
05 FILLER PIC X(16) VALUE 'TOTAL POPULATION'.  
05 FILLER PIC X(24) VALUE SPACES.  
  
01 STATE-TOTAL PIC 9(8).  
01 USA-TOTAL PIC 9(9).  
01 CURRENT-STATE PIC XX.
```

```
01 PAGE-NUMBER PIC 9 VALUE 1.  
01 END-OF-FILE PIC X VALUE 'N'.  
01 WS-DATE.  
   05 WS-YEAR PIC XXXX.  
   05 WS-MONTH PIC XX.  
   05 WS-DAY PIC XX.
```

```
*****
```

```
PROCEDURE DIVISION.
```

```
100-MAIN-ROUTINE.
```

```
   PERFORM 200-INITIALIZE-ROUTINE  
   PERFORM 300-PRINT-HEADERS  
   PERFORM 400-DETAIL-ROUTINE  
   PERFORM 800-FINAL-ROUTINE  
   STOP RUN.
```

```
200-INITIALIZE-ROUTINE.
```

```
   OPEN INPUT  POPULATION-MASTER-FILE  
           OUTPUT  POPULATION-REPORT  
   MOVE FUNCTION CURRENT-DATE TO WS-DATE  
   MOVE WS-YEAR TO RPT-YEAR  
       MOVE WS-MONTH TO RPT-MONTH  
       MOVE WS-DAY TO RPT-DAY  
   MOVE ZEROS TO STATE-TOTAL  
   MOVE ZEROS TO USA-TOTAL  
   MOVE '01' TO CURRENT-STATE  
   MOVE PAGE-NUMBER TO PAGE-NO.
```

```
300-PRINT-HEADERS.
```

```
   MOVE HEADER1 TO PRINT-BUFFER  
   WRITE PRINT-BUFFER  
   MOVE SPACES TO PRINT-BUFFER  
   WRITE PRINT-BUFFER  
   MOVE HEADER2 TO PRINT-BUFFER  
   WRITE PRINT-BUFFER  
   MOVE SPACES TO PRINT-BUFFER
```

```
WRITE PRINT-BUFFER.
```

```
400-DETAIL-ROUTINE.
```

```
    PERFORM UNTIL END-OF-FILE = 'Y'  
        READ POPULATION-MASTER-FILE  
        AT END MOVE 'Y' TO END-OF-FILE  
        NOT AT END PERFORM 500-ACCUMULATE  
    END-READ  
END-PERFORM.
```

```
500-ACCUMULATE.
```

```
    IF STATE-NO = CURRENT-STATE  
        ADD POPULATION TO STATE-TOTAL  
        ADD POPULATION TO USA-TOTAL  
    ELSE  
        PERFORM 600-PRINT-DETAIL-RECORD  
        MOVE STATE-NO TO CURRENT-STATE  
        MOVE ZEROS TO STATE-TOTAL  
        ADD POPULATION TO STATE-TOTAL  
        ADD POPULATION TO USA-TOTAL  
    END-IF.
```

```
600-PRINT-DETAIL-RECORD.
```

```
    MOVE CURRENT-STATE TO STATE-ID  
    MOVE STATE-TOTAL TO STATE-POPULATION  
    MOVE POP-DETAIL-RECORD TO PRINT-BUFFER  
    WRITE PRINT-BUFFER  
    MOVE SPACES TO PRINT-BUFFER  
    WRITE PRINT-BUFFER.
```

```
700-PRINT-SUMMARY-RECORD.
```

```
    MOVE USA-TOTAL TO SUMMARY-USA-TOTAL  
    MOVE POP-SUMMARY-RECORD TO PRINT-BUFFER  
    WRITE PRINT-BUFFER.
```

```
800-FINAL-ROUTINE.
```

```
    PERFORM 600-PRINT-DETAIL-RECORD  
    PERFORM 700-PRINT-SUMMARY-RECORD
```

**CLOSE POPULATION-REPORT
POPULATION-MASTER-FILE.**

Identification Division.

Program-ID. Assignment4.
Author. Micheal McCabe.

Environment Division.

INPUT-OUTPUT SECTION.

FILE-CONTROL.

SELECT WH-TABLE ASSIGN TO "CH12_WH_TABLE.TXT".
SELECT TRANS-INVENTORY ASSIGN TO "CH12_TRANS_INVENTORY.TXT".
SELECT MASTER-INVENTORY ASSIGN TO "CH12_MASTER_INVENTORY.TXT".

DATA DIVISION.

FILE SECTION.

FD WH-TABLE.

01 WH-TABLE-RECORD.
05 WH-WAREHOUSE-NO PIC 9(3).
05 WH-PRODUCT-NO PIC 9(3).
05 WH-UNIT-PRICE PIC 999V99.

FD TRANS-INVENTORY.

01 TRANS-INVENTORY-RECORD.
05 TRANS-PRODUCT-NO PIC 9(3).
05 TRANS-QTY PIC 9(4).
05 TRANS-CUSTOMER-NAME PIC X(13).

FD MASTER-INVENTORY.

01 MASTER-INVENTORY-RECORD.
05 MASTER-PRODUCT-NO PIC 9(3).
05 MASTER-UNIT-PRICE PIC 999V99.

```
05 MASTER-QUANTITY PIC 9(4).
05 MASTER-TOTAL-AMNT PIC 99999V99.
05 MASTER-CUSTOMER-NAME PIC X(13).
```

WORKING-STORAGE SECTION.

```
01 EOF PIC X VALUE "N".
01 WS-TABLE-COUNTER PIC 99 VALUE 0.
01 WS-TABLE-BODY.
   05 WS-TABLE-ROW OCCURS 90 TIMES INDEXED BY X1.
      10 WS-WAREHOUSE-NO PIC 9(3).
      10 WS-PRODUCT-NO PIC 9(4).
      10 WS-UNIT-PRICE PIC 999V99.
```

Procedure Division.

Main-Module.

```
Perform Load-WH-Table
Perform Transaction-Processing
STOP RUN.
```

Load-WH-Table.

```
Open Input WH-TABLE
Perform until EOF = "Y"
  Read WH-TABLE
  At end move "Y" to EOF
  Not at end Perform Load-WH-Table-Row
End-Read
End-Perform.
```

Load-WH-Table-Row.

```
Add 1 to WS-TABLE-COUNTER
Set X1 to WS-TABLE-COUNTER
Move WH-WAREHOUSE-NO to WS-WAREHOUSE-NO(X1)
```

```
Move WH-PRODUCT-NO to WS-PRODUCT-NO(X1)
Move WH-UNIT-PRICE to WS-UNIT-PRICE(X1).
```

Transaction-Processing.

```
Open Input TRANS-INVENTORY
Open Output MASTER-INVENTORY
Move "N" to EOF
Perform until EOF="Y"
    Read TRANS-INVENTORY
    At end move "Y" to EOF
    Not at end Perform Record-Processing
End-Read
End-Perform
Close MASTER-INVENTORY
Close TRANS-INVENTORY.
```

Record-Processing.

```
Set X1 to 1.
Search WS-TABLE-ROW
    At End Perform Error-Display
    when WS-PRODUCT-NO(X1) = TRANS-PRODUCT-NO
        Move TRANS-PRODUCT-NO to MASTER-PRODUCT-NO
        Move WS-UNIT-PRICE(X1) to MASTER-UNIT-PRICE
        Move TRANS-QTY to MASTER-QUANTITY
        Multiply WS-UNIT-PRICE(X1) by TRANS-QTY Giving MASTER-TOTAL-AMNT
        Move TRANS-CUSTOMER-NAME to MASTER-CUSTOMER-NAME
        Write MASTER-INVENTORY-RECORD
END-SEARCH.
```

Error-Display.

```
Display TRANS-INVENTORY-RECORD with no advancing
Display "Error: Part Number Not Found!".
```

IDENTIFICATION DIVISION.

PROGRAM-ID.

EXAM1.

AUTHOR.

MICHEAL MCCABE.

ENVIRONMENT DIVISION.

INPUT-OUTPUT SECTION.

FILE-CONTROL.

SELECT STOCK-FILE

ASSIGN TO "TEST1.DAT"

ORGANIZATION IS LINE SEQUENTIAL.

DATA DIVISION.

FILE SECTION.

FD STOCK-FILE

RECORD CONTAINS 35 CHARACTERS.

01 STOCK-REC-IN.

*File input format here

05 STOCK-CODE PIC XXX.

05 STOCK-NAME PIC X(17).

05 PRICE-PER-SHARE PIC 999V99.

05 EARNINGS-PER-SHARE PIC 9(8)V99.

WORKING-STORAGE SECTION.

01 WORK-AREA.

05 ARE-THERE-MORE-RECORDS PIC XXX VALUE "YES".

01 ACCUMULATORS-WORK-AREA.

05 RATIO-WS PIC 9(4)V999 VALUE ZEROS.

01 HEADING-LINE-1.

05 PIC X(31) VALUE SPACES.

05 PIC X(20) VALUE "STOCK REPORT ".

05 PIC X(29) VALUE SPACES.

01 HEADING-LINE-2.

05 PIC X(49) VALUE SPACES.

05 PIC X(6) VALUE "LATEST".

05 PIC X(25) VALUE SPACES.

01 HEADING-LINE-3.

05 PIC X(12) VALUE " STOCK CODE ".

05 PIC X(3) VALUE SPACES.

```
05 PIC X(17) VALUE " STOCK NAME ".
05 PIC X(17) VALUE "PRICE PER SHARE ".
05 PIC X(30) VALUE "EARNINGS P/E RATIO ".
01 DETAIL-LINE.
* Place your detail line code here
05 PIC XXX VALUE SPACES.
05 STOCK-OUT PIC XXX.
05 PIC X(8) VALUE SPACES.
05 NAME-OUT PIC X(16).
05 PIC X(5) VALUE SPACES.
05 PRICE-OUT PIC $$$ .99.
05 PIC X(8) VALUE SPACES.
05 EARNINGS-OUT PIC $$$$ .99.
05 PIC X(7) VALUE SPACES.
05 PE-OUT PIC z9.99.
```

PROCEDURE DIVISION.

000-MAIN-MODULE.

```
PERFORM 100-INITIALIZATION-MODULE
PERFORM UNTIL ARE-THERE-MORE-RECORDS = "NO "
    READ STOCK-FILE
    AT END MOVE "NO " TO ARE-THERE-MORE-RECORDS
    NOT AT END PERFORM 200-PROCESS-MODULE
END-READ
END-PERFORM
PERFORM 900-TERMINATION-MODULE
STOP RUN.
```

100-INITIALIZATION-MODULE.

```
OPEN INPUT STOCK-FILE
PERFORM 700-TOP-OF-PAGE-MODULE.
```

200-PROCESS-MODULE.

```
* processing is done here and call to display
MOVE STOCK-CODE TO STOCK-OUT
MOVE STOCK-NAME TO NAME-OUT
MOVE PRICE-PER-SHARE TO PRICE-OUT
```

```
MOVE EARNINGS-PER-SHARE TO EARNINGS-OUT  
DIVIDE PRICE-PER-SHARE BY EARNINGS-PER-SHARE GIVING PE-OUT.  
PERFORM 701-DISPLAY-DETAIL-LINE-MODULE.
```

```
700-TOP-OF-PAGE-MODULE.  
  DISPLAY HEADING-LINE-1  
  DISPLAY HEADING-LINE-2  
  DISPLAY HEADING-LINE-3.
```

```
701-DISPLAY-DETAIL-LINE-MODULE.  
  DISPLAY DETAIL-LINE.
```

```
900-TERMINATION-MODULE.  
  CLOSE STOCK-FILE.
```

IDENTIFICATION DIVISION.

PROGRAM-ID. EXAM2.
Author. Micheal H McCabe.

ENVIRONMENT DIVISION.

INPUT-OUTPUT SECTION.

FILE-CONTROL.

SELECT SALES-FILE ASSIGN TO 'SALES-FILE.DAT'.

DATA DIVISION.

FILE SECTION.

FD SALES-FILE

RECORD CONTAINS 27 CHARACTERS.

01 SALES-REC.

05 ID-IN PIC 99.
05 NAME-IN PIC X(20).
05 SALES-IN PIC 999V99.

WORKING-STORAGE SECTION.

01 STORAGE-AREAS.

05 ARE-THERE-MORE-RECS PIC XXX.
05 SUB PIC 99.

01 Presidential-Records.

05 Group1 occurs 30 times.

10 P-ID-STORE PIC 99.
10 P-NAME-STORE PIC X(20).
10 P-SALES-STORE PIC 999V99.

```

05 Group2 occurs 30 times.
   10 G2-Name          PIC X(20).
   10 G2-Total        PIC 9999V99.

01 Record-Count      PIC 99.
01 Looping-Index     PIC 99.
01 Blank-Line        PIC X(80) value spaces.
01 TOTAL-BAR         PIC X(32) VALUE "===== ".
01 G2-Output          PIC $$$9.99.
01 Grand-Total       PIC 99999V99.
01 Grand-Total-Output PIC $$$9.99.

*****

PROCEDURE DIVISION.

100-MAIN.
  OPEN INPUT SALES-FILE
  PERFORM INITIALIZE-ARRAY
  PERFORM UNTIL ARE-THERE-MORE-RECS = "NO "
    READ SALES-FILE
    AT END MOVE "NO " TO ARE-THERE-MORE-RECS
    NOT AT END PERFORM UTILITY-ROUTINE
  END-READ
  END-PERFORM
  CLOSE SALES-FILE
  Perform PRINT-REVERSE
  Perform SUMMARY-TOTALS
  STOP RUN.

INITIALIZE-ARRAY.
  PERFORM VARYING Looping-Index from 1 by 1 until Looping-Index >30
    MOVE SPACES to G2-NAME(Looping-Index)
    MOVE 0 to G2-Total(Looping-Index)
  END-PERFORM.

UTILITY-ROUTINE.
  ADD 1 TO Record-Count

```

```
Display SALES-REC
Move ID-IN to P-ID-STORE(Record-Count)
Move NAME-IN to P-NAME-STORE(Record-Count)
Move SALES-IN to P-SALES-STORE(Record-Count)
MOVE NAME-IN to G2-Name(ID-IN)
ADD SALES-IN to G2-Total(ID-IN).
```

PRINT-REVERSE.

```
Display Blank-Line
Display "Print in Reverse:"
Display Blank-Line
Perform
varying Looping-Index from Record-Count by -1 until Looping-Index < 1
Display Group1(Looping-Index)
End-Perform.
```

SUMMARY-TOTALS.

```
DISPLAY BLANK-LINE
PERFORM VARYING LOOPING-INDEX FROM 1 BY 1 UNTIL G2-Total(LOOPING-INDEX)=0
    DISPLAY G2-NAME(LOOPING-INDEX) NO ADVANCING
    DISPLAY " " NO ADVANCING
    MOVE G2-TOTAL(LOOPING-INDEX) TO G2-OUTPUT
    DISPLAY G2-OUTPUT
    ADD G2-TOTAL(LOOPING-INDEX) to GRAND-TOTAL
END-PERFORM
DISPLAY TOTAL-BAR
DISPLAY "Grand Total " NO ADVANCING
MOVE GRAND-TOTAL TO Grand-Total-Output
DISPLAY Grand-Total-Output.
```

IDENTIFICATION DIVISION.**PROGRAM-ID. LAB1.****AUTHOR. MICHEAL MCCABE.****ENVIRONMENT DIVISION.****INPUT-OUTPUT SECTION.****FILE-CONTROL.****SELECT EMPLOYEE-DATA ASSIGN TO EMP-DAT.****SELECT PAYROLL-LISTING ASSIGN TO OUTPUT-LST.****DATA DIVISION.****FILE SECTION.****FD EMPLOYEE-DATA.****01 EMPLOYEE-RECORD.****05 EMPLOYEE-NAME-IN PIC X(20).****05 HOURS-WORKED-IN PIC 9(2).****05 HOURLY-RATE-IN PIC 9V99.****FD PAYROLL-LISTING.****01 PRINT-REC.****05 PIC X(20).****05 NAME-OUT PIC X(20).****05 PIC X(10).****05 HOURS-OUT PIC 9(2).****05 PIC X(8).****05 RATE-OUT PIC 9.99.****05 PIC X(6).****05 WEEKLY-WAGES-OUT PIC 999.99.****WORKING-STORAGE SECTION.****01 ARE-THERE-MORE-RECORDS PIC XXX VALUE 'YES'.**

PROCEDURE DIVISION.**100-MAIN-MODULE.**

```
OPEN INPUT EMPLOYEE-DATA
  OUTPUT PAYROLL-LISTING
  PERFORM UNTIL ARE-THERE-MORE-RECORDS = 'NO '
    READ EMPLOYEE-DATA
      AT END MOVE 'NO ' TO ARE-THERE-MORE-RECORDS
      NOT AT END PERFORM 200-WAGE-ROUTINE
  END-READ
END-PERFORM
CLOSE EMPLOYEE-DATA
  PAYROLL-LISTING
STOP RUN.
```

200-WAGE-ROUTINE.

```
MOVE SPACES TO PRINT-REC
MOVE EMPLOYEE-NAME-IN TO NAME-OUT
MOVE HOURS-WORKED-IN TO HOURS-OUT
MOVE HOURLY-RATE-IN TO RATE-OUT
MULTIPLY HOURS-WORKED-IN BY HOURLY-RATE-IN
  GIVING WEEKLY-WAGES-OUT
WRITE PRINT-REC.
```

IDENTIFICATION DIVISION.

```
PROGRAM-ID. LAB2.  
AUTHOR. MICHEAL H. MCCABE.
```

DATA DIVISION.**WORKING-STORAGE SECTION.**

```
01 INPUT-LINE          PIC X(10).  
01 SALES-AMOUNT-IN    PIC 9999V99.  
01 SALES-TAX-RATE     PIC 99V99 VALUE 0.08.  
01 SALES-TAX-AMOUNT   PIC 9999V99.  
01 TOTAL-AMOUNT       PIC 99999V99.  
** I WANTED TO TRY USING SOME EDITING SYMBOLS HERE TO PRETTY UP THE OUTPUT  
01 SALES-TAX-OUT      PIC $$$$$.99.  
01 TOTAL-AMOUNT-OUT  PIC $$$$$.99.  
01 RUN-AGAIN         PIC XXX VALUE 'YES'.
```

PROCEDURE DIVISION.**1000-MAIN-LOOP.**

```
PERFORM UNTIL RUN-AGAIN = 'NO '  
    DISPLAY 'SALES TAX COMPUTATION'  
    DISPLAY 'PLEASE ENTER THE AMOUNT OF SALE: '  
    ACCEPT INPUT-LINE  
** NOT SURE IF THE NUMVAL FUNCTION IS PART OF ANSI COBOL, BUT IT WORKS!  
    MOVE FUNCTION NUMVAL(INPUT-LINE) TO SALES-AMOUNT-IN  
    MULTIPLY SALES-AMOUNT-IN BY SALES-TAX-RATE GIVING SALES-TAX-AMOUNT  
    ADD SALES-AMOUNT-IN TO SALES-TAX-AMOUNT GIVING TOTAL-AMOUNT  
    MOVE SALES-TAX-AMOUNT TO SALES-TAX-OUT  
    MOVE TOTAL-AMOUNT TO TOTAL-AMOUNT-OUT  
    DISPLAY 'THE TAX AMOUNT IS: ',SALES-TAX-OUT  
    DISPLAY 'THE TOTAL AMOUNT IS: ',TOTAL-AMOUNT-OUT  
    DISPLAY 'DO YOU WISH TO RUN THE PROGRAM AGAIN? (YES OR NO) '  
    ACCEPT RUN-AGAIN  
END-PERFORM  
DISPLAY 'GOODBYE! '  
STOP RUN.
```

```
IDENTIFICATION DIVISION.  
PROGRAM-ID. LAB4.  
AUTHOR. MICHEAL MCCABE.
```

```
ENVIRONMENT DIVISION.  
CONFIGURATION SECTION.
```

```
SOURCE-COMPUTER. DELL.  
OBJECT-COMPUTER. ALPHA-VMS.
```

```
INPUT-OUTPUT SECTION.
```

```
DATA DIVISION.
```

```
WORKING-STORAGE SECTION.
```

```
01 300-ACTIVE-SPACES VALUE SPACES.  
   05 300-COMPANY-NAME PIC X(30).  
   05 300-LAST-NAME PIC X(25).  
   05 300-FIRST-NAME PIC X(15).  
   05 300-MAIL-ADDRESS PIC X(30).
```

```
SCREEN SECTION.
```

```
01 CLEAR-SCREEN.  
   05 BLANK SCREEN BACKGROUND-COLOR 5 FOREGROUND-COLOR 7.  
  
01 INPUT-SCREEN AUTO.  
   05 LINE 6 COLUMN 22 HIGHLIGHT value 'COMPANY: '.  
   05 COMPANY-NAME REVERSE-VIDEO PIC X(30) USING 300-COMPANY-NAME.  
   05 LINE 7 COLUMN 20 HIGHLIGHT value 'LAST NAME: '.  
   05 LAST-NAME REVERSE-VIDEO PIC X(25) USING 300-LAST-NAME.  
   05 LINE 8 COLUMN 19 HIGHLIGHT value 'FIRST NAME: '.  
   05 FIRST-NAME REVERSE-VIDEO PIC X(15) USING 300-FIRST-NAME.  
   05 LINE 9 COLUMN 22 HIGHLIGHT value 'ADDRESS: '.  
   05 MAIL-ADDRESS REVERSE-VIDEO PIC X(30) USING 300-MAIL-ADDRESS.
```

PROCEDURE DIVISION.

100-MAIN-MODULE.

 DISPLAY CLEAR-SCREEN.

 DISPLAY INPUT-SCREEN.

 ACCEPT INPUT-SCREEN.

 STOP RUN.

IDENTIFICATION DIVISION.

PROGRAM-ID. LAB6.
 Author. Micheal McCabe.

ENVIRONMENT DIVISION.

INPUT-OUTPUT SECTION.

FILE-CONTROL.

SELECT DRIVER-FILE ASSIGN "LAB6.DAT".

DATA DIVISION.

FILE SECTION.

FD DRIVER-FILE.

01 DRIVER-REC.

05 DRIVER-NO-IN PIC X(4).
 05 ST-CODE-IN PIC 99.
 05 DOB-IN.
 10 MO-IN PIC 99.
 10 YR-IN PIC 9999.
 05 SEX-IN PIC X.

WORKING-STORAGE SECTION.

01 WORK-AREA.

05 ARE-THERE-MORE-RECORDS PIC X VALUE "Y".
 88 NO-MORE-RECORDS VALUE "N".
 05 WS-TOTAL-DRIVERS PIC 999 VALUE 0.
 05 WS-AGE-CTR PIC 999 VALUE 0.
 05 WS-FEMALE-CTR PIC 999 VALUE 0.
 05 WS-NY-CTR PIC 999 VALUE 0.
 05 AGE-WS PIC 9(8).
 05 DOB-WS PIC 9(8).
 05 DOB-WS-GROUP REDEFINES DOB-WS.
 10 YR-WS PIC 9999.
 10 MO-WS PIC 99.
 10 DA-WS PIC 99.
 05 TODAY-WS PIC 9(8).
 05 WS-UNDER-25 PIC 99.99 VALUE ZEROS.
 05 WS-FEMALES PIC 99.99 VALUE ZEROS.
 05 WS-NY-ERS PIC 99.99 VALUE ZEROS.
 05 WS-INTEGGER-DATE-TODAY PIC 9(7).
 05 WS-INTEGGER-DATE-DOB PIC 9(7).

SCREEN SECTION.

```
01 SCREEN-1.
   05 BLANK SCREEN.
   05 LINE 10 COLUMN 10 VALUE "% OF DRIVERS UNDER 25".
   05 COLUMN 40 PIC 99.99 FROM WS-UNDER-25.
   05 LINE 12 COLUMN 10 VALUE "% OF DRIVERS WHO ARE FEMALE".
   05 COLUMN 40 PIC 99.99 FROM WS-FEMALES.
   05 LINE 14 COLUMN 10 VALUE "% OF DRIVERS FROM NY".
   05 COLUMN 40 PIC 99.99 FROM WS-NY-ERS.

PROCEDURE DIVISION.

000-MAIN-MODULE.
   OPEN INPUT DRIVER-FILE
   MOVE FUNCTION CURRENT-DATE(1:8) TO TODAY-WS
   DISPLAY TODAY-WS
   MOVE FUNCTION INTEGER-OF-DATE(TODAY-WS) TO WS-INTEGGER-DATE-TODAY
   DISPLAY WS-INTEGGER-DATE-TODAY
   PERFORM UNTIL ARE-THERE-MORE-RECORDS = "N"
       READ DRIVER-FILE
           AT END MOVE 'N' TO ARE-THERE-MORE-RECORDS
           NOT AT END PERFORM 100-MORE-STUFF
       END-READ
   END-PERFORM
   CLOSE DRIVER-FILE
   PERFORM 200-FINAL-PROCESSING
   DISPLAY SCREEN-1
   STOP RUN.

100-MORE-STUFF.

* Increment the total drivers counter, since we have an accident report

   ADD 1 TO WS-TOTAL-DRIVERS

* If the driver is from New York, increment the NY counter

   IF ST-CODE-IN = "01" ADD 1 TO WS-NY-CTR
   END-IF
```

* If the driver is female, increment the female counter

```
IF SEX-IN = "F" ADD 1 TO WS-FEMALE-CTR
END-IF
```

* Find the age of the driver...

```
MOVE 01 TO DA-WS
MOVE MO-IN TO MO-WS
MOVE YR-IN TO YR-WS
```

```
MOVE FUNCTION INTEGER-OF-DATE(DOB-WS) TO WS-INTEGGER-DATE-DOB
SUBTRACT WS-INTEGGER-DATE-DOB FROM WS-INTEGGER-DATE-TODAY GIVING AGE-WS
DIVIDE AGE-WS BY 365 GIVING AGE-WS
```

* If the age is less than 25, increment that counter!

```
IF AGE-WS <25 ADD 1 TO WS-AGE-CTR.
```

200-FINAL-PROCESSING.

* Find the percentages...

```
COMPUTE WS-NY-ERS = (WS-NY-CTR / WS-TOTAL-DRIVERS) * 100
COMPUTE WS-FEMALES = (WS-FEMALE-CTR / WS-TOTAL-DRIVERS) * 100
COMPUTE WS-UNDER-25 = (WS-AGE-CTR / WS-TOTAL-DRIVERS) * 100.
```

** Finish the program

Identification Division.

Program-ID. Lab7.
Author. Micheal McCabe.

Data Division.**Working-Storage Section.**

01 Customer-Record.
05 Customer-No Pic 9(3).
05 Customer-Name Pic X(27).
05 Maximum-Credit Pic 9(5).
05 Credit-Rating Pic X(2).
05 Total-Balance Pic 9(5).

01 Numeric-Input Pic X(10).
01 Blank-Line Pic x(80) value SPACES.
01 ERR Pic 9 Value 9.

Procedure Division.**Main-Routine.**

Display "Lab7.COB"
Display "Micheal H. McCabe"
Display "March 19, 2012"
Display Blank-Line
Move 9 to ERR
Perform Get-Customer-Number Until ERR = 0
Move 9 to ERR
Perform Get-Customer-Name Until ERR = 0
Move 9 to ERR
Perform Get-Maximum-Credit Until ERR = 0
Move 9 to ERR
Perform Get-Credit-Rating Until ERR = 0


```
Move 9 to ERR
Perform Get-Total-Balance Until ERR = 0
Display Blank-Line
Display "Example of formatted Record:"
Display Blank-Line
Display Customer-Record
Stop Run.
```

Get-Customer-Number.

```
Display "Please enter the customer number: " WITH NO ADVANCING
Accept Numeric-Input
Move Function Numval(Numeric-Input) to Customer-No
```

```
If Customer-No < 101 OR Customer-No > 972
    Display "Error: Customer number out of range (101-972)."
```

```
    Move 9 to ERR
```

```
Else
```

```
    Move 0 to ERR.
```

Get-Customer-Name.

```
Display "Please enter the customer name: " WITH NO ADVANCING
Accept Customer-Name
```

```
If Customer-Name = SPACES
```

```
    Display "Error. Customer name is blank. Enter Something!"
```

```
    Move 9 to ERR
```

```
Else
```

```
    Move 0 to ERR.
```

Get-Maximum-Credit.

```
Display "Please enter maximum credit: " WITH NO ADVANCING
```

```
Accept Numeric-Input
```

```
Move Function Numval(Numeric-Input) to Maximum-Credit
```

```
Move 0 to ERR.
```

Get-Credit-Rating.

```
Display "Please enter credit rating code (EX,VG,G,A): "
WITH NO ADVANCING
```

Accept Credit-Rating

```
If Credit-Rating = 'EX'  
    Move 0 to ERR
```

```
ELSE If Credit-Rating = "VG"  
    Move 0 to ERR
```

```
ELSE If Credit-Rating = "G"  
    Move 0 to ERR
```

```
ELSE If Credit-Rating = "A"  
    Move 0 to ERR
```

```
ELSE  
    Move 9 to ERR.
```

Get-Total-Balance.

```
Display "Please enter the total balance due:    " WITH NO ADVANCING
```

```
Accept Numeric-Input
```

```
Move Function Numval(Numeric-Input) to Total-Balance
```

```
If Total-Balance > Maximum-Credit
```

```
    Display "Error: Balance due exceeds maximum credit!"  
    Move 9 to ERR
```

```
Else
```

```
    Move 0 to ERR.
```

IDENTIFICATION DIVISION.

PROGRAM-ID. LAB8.
AUTHOR. MICHEAL MCCABE.

ENVIRONMENT DIVISION.

INPUT-OUTPUT SECTION.

FILE-CONTROL.

SELECT INPUT-FILE ASSIGN TO 'CH14LAB.TXT'.
SELECT TEMPFILE ASSIGN TO SYSWORK.
SELECT SORTED-FILE ASSIGN TO 'SORTED.DAT'.

DATA DIVISION.

FILE SECTION.

FD INPUT-FILE.

01 DATA-RECORD.

05 EMPLOYEE-NUMBER PIC X(5).
05 EMPLOYEE-NAME PIC X(20).
05 TERRITORY-NUMBER PIC XX.
05 OFFICE-NUMBER PIC XX.
05 ANNUAL-SALARY PIC X(6).
05 SOCIAL-SECURITY-NO PIC X(9).
05 UNUSED PIC X(36).

SD TEMPFILE.

01 TEMP-DATA-RECORD.

05 EMP-NUM PIC X(5).
05 REMAINING-DATA PIC X(75).

FD SORTED-FILE.

01 SORTED-DATA-RECORD.

05	S-EMPLOYEE-NUMBER	PIC X(5).
05	S-EMPLOYEE-NAME	PIC X(20).
05	S-TERRITORY-NUMBER	PIC XX.
05	S-OFFICE-NUMBER	PIC XX.
05	S-ANNUAL-SALARY	PIC X(6).
05	S-SOCIAL-SECURITY-NO	PIC X(9).
05	S-UNUSED	PIC X(36).

WORKING-STORAGE SECTION.

01 DETAIL-LINE.

05	EMPLOYEE-NO-OUT	PIC X(5).
05	FILLER	PIC X(5).
05	EMPLOYEE-NAME-OUT	PIC X(20).
05	FILLER	PIC X(5).
05	TERRITORY-NO-OUT	PIC XX.
05	FILLER	PIC X(5).
05	OFFICE-NO-OUT	PIC XX.
05	FILLER	PIC X(5).
05	ANNUAL-SALARY-OUT	PIC X(6).
05	FILLER	PIC X(5).
05	SOCIAL-SECURITY-OUT	PIC X(9).

01 EOF PIC X VALUE 'N'.

01 BLANK-LINE PIC X(80) VALUE SPACES.

PROCEDURE DIVISION.

PRINT-UNSORTED-DATA.

DISPLAY 'UNSORTED LIST:'
 DISPLAY BLANK-LINE

OPEN INPUT INPUT-FILE
 PERFORM UNTIL EOF = 'Y'
 READ INPUT-FILE
 AT END MOVE 'Y' TO EOF

```
NOT AT END PERFORM PRINT-ROUTINE
END-READ
END-PERFORM
CLOSE INPUT-FILE

DISPLAY BLANK-LINE
DISPLAY 'SORTED LIST:'
DISPLAY BLANK-LINE

SORT TEMPFILE
ON ASCENDING EMP-NUM
USING INPUT-FILE
GIVING SORTED-FILE.

MOVE 'N' TO EOF
OPEN INPUT SORTED-FILE
PERFORM UNTIL EOF= 'Y'
READ SORTED-FILE
AT END MOVE 'Y' TO EOF
NOT AT END PERFORM PRINT-ROUTINE2
END-READ
END-PERFORM
CLOSE SORTED-FILE

DISPLAY BLANK-LINE
DISPLAY 'END PROGRAM.'

STOP RUN.
*****

PRINT-ROUTINE.
MOVE EMPLOYEE-NUMBER TO EMPLOYEE-NO-OUT
MOVE EMPLOYEE-NAME TO EMPLOYEE-NAME-OUT
MOVE TERRITORY-NUMBER TO TERRITORY-NO-OUT
MOVE OFFICE-NUMBER TO OFFICE-NO-OUT
MOVE ANNUAL-SALARY TO ANNUAL-SALARY-OUT
MOVE SOCIAL-SECURITY-NO TO SOCIAL-SECURITY-OUT
DISPLAY DETAIL-LINE.
```

PRINT-ROUTINE2.**MOVE S-EMPLOYEE-NUMBER TO EMPLOYEE-NO-OUT****MOVE S-EMPLOYEE-NAME TO EMPLOYEE-NAME-OUT****MOVE S-TERRITORY-NUMBER TO TERRITORY-NO-OUT****MOVE S-OFFICE-NUMBER TO OFFICE-NO-OUT****MOVE S-ANNUAL-SALARY TO ANNUAL-SALARY-OUT****MOVE S-SOCIAL-SECURITY-NO TO SOCIAL-SECURITY-OUT****DISPLAY DETAIL-LINE.**

Identification Division.

Program-ID. Buildrel.
Author. Micheal McCabe.

Environment Division.

Input-Output Section.

File-Control.

Select SEQ-FILE assign to "DISK1.SEQ"
Organization is line sequential.
Select REL-FILE assign to "DISK1.REL"
Organization is relative
Access is random
Relative key is REL-KEY.

Data Division.

File Section.

FD SEQ-FILE.
01 SEQ-REC PIC X(100).

FD REL-FILE.
01 REL-REC PIC X(100).

Working-Storage Section.

01 ARE-THERE-MORE-RECORDS PIC X(3) VALUE "YES".
88 EOF VALUE "NO".
01 WS-REC.
05 REL-KEY PIC 9(5).
05 OTHER-STUFF PIC X(95).

Procedure Division.

000-MAIN-MODULE.

OPEN INPUT SEQ-FILE

OUTPUT REL-FILE

PERFORM UNTIL EOF

READ SEQ-FILE INTO WS-REC

AT END MOVE "NO " TO ARE-THERE-MORE-RECORDS

NOT AT END WRITE REL-REC FROM WS-REC

INVALID KEY DISPLAY "BAD KEY"

END-WRITE

END-READ

END-PERFORM

CLOSE SEQ-FILE

REL-FILE

STOP RUN.

Identification Division.

Program-ID. RUPDATE.
Author. Micheal McCabe.

Environment Division.**Input-Output Section.****File-Control.**

Select REL-FILE assign to "DISK1.REL"
Organization is relative
Access is random
Relative key is WS-KEY.

Data Division.**File Section.****FD REL-FILE.**

01 Rel-Rec.
05 CUST-NO PIC 9(5).
05 CUST-NAME PIC X(20).
05 BAL-DUE PIC 9(5).
05 STUFF PIC X(70).

Working-Storage Section.

01 STORED-AREAS.
05 ARE-THERE-MORE-RECORDS PIC X value "Y".
05 WS-KEY PIC 9(5).
05 T-AMT PIC 9(5).

*** MR TUCKER PUTS HIS COMMENTS HERE!

Procedure Division.

100-MAIN-MODULE.

```
OPEN I-O REL-FILE
PERFORM 200-CALC-RTN
    UNTIL ARE-THERE-MORE-RECORDS = "N" OR "n"
CLOSE REL-FILE
STOP RUN.
```

200-CALC-RTN.

```
DISPLAY "Enter Customer Number: " with no advancing
Accept WS-KEY
READ REL-FILE
    INVALID KEY DISPLAY "That record does not exist, dipshit."
    NOT INVALID KEY PERFORM 300-UPDATE-RTN
END-READ
DISPLAY "Are there more records to update (Y/N)?" with no advancing
ACCEPT ARE-THERE-MORE-RECORDS.
```

300-UPDATE-RTN.

```
DISPLAY "Enter transaction amount: " with no advancing
Accept T-AMT
ADD T-AMT to BAL-DUE
REWRITE REL-REC
    INVALID KEY DISPLAY "Rewrite error!"
END-REWRITE.
```
