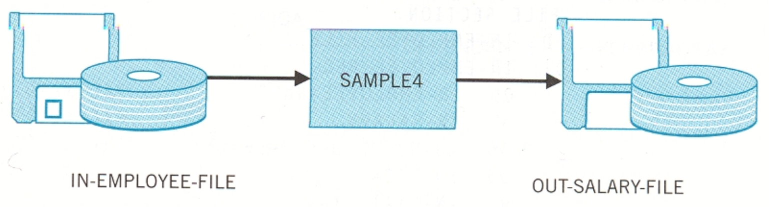
PRACTICE PROGRAM

From this point on, each chapter includes one practice program with a suggested solution provided to assist you in reviewing the material in the chapter. First plan and code the practice program on your own. Then check your solution against the one illustrated. A problem definition is provided that includes (1) a systems flowchart, which is an overview of the input and output, (2) record layout forms (we use different types to familiarize you with them), and (3) Printer Spacing Charts, if printed output is required. Some chapters include either an interactive program or a batch program as the practice program and some include both.

Batch Practice Program

Write a batch program to write an output salary disk file from input master employee disk records. The problem definition is as follows:

Systems Flowchart



IN-EMPLOYEE-FILE **Record Layout**

Field*	Size	Type
EMPLOYEE NAME	20	Alphanumeric
SALARY	5	Alphanumeric
NO. OF DEPENDENTS	1	Alphanumeric
FICA (Soc. Sec. Tax)	5	Alphanumeric
STATE TAX	6	Alphanumeric
FEDERAL TAX	6	Alphanumeric
DATE OF HIRE	8	MO (2 digits) DA (2 digits) YR (4 digits)

OUT-SALARY-FILE **Record Layout**

Field*	Size	Type
EMPLOYEE NAME	20	Alphanumeric
SALARY	5	Alphanumeric

**Note:* These are *not* COBOL field-names.

Figure 4.4 illustrates the pseudocode for this program. Pseudocode as a planning tool will be discussed in detail in the next chapter. Look at the pseudocode planning tool first to see if you understand the logic and then try to write the program yourself. Compare your coding with the solution in Figure 4.5.

Figure 4.4 Pseudocode for the Practice Program.

Pseudocode

```
START
    Open the Files
    PERFORM UNTIL no more records (ARE-THERE-MORE-RECORDS = 'NO ')
        Read a record
        Move Input Fields to the Output Area
        Write the Output Record
    END-PERFORM
    Close the Files
STOP
```

Figure 4.5 Solution to the Batch Practice Program.

```
 IDENTIFICATION DIVISION.
 PROGRAM-ID. SAMPLE.
*******************************************************
*  sample  - updates a file with employee             *
*               names and salaries                    *
*******************************************************
 ENVIRONMENT DIVISION.
 INPUT-OUTPUT SECTION.
 FILE-CONTROL.
     SELECT IN-EMPLOYEE-FILE ASSIGN TO DATA4E.
     SELECT OUT-SALARY-FILE  ASSIGN TO DATA4S.
*
 DATA DIVISION.
 FILE SECTION.
 FD  IN-EMPLOYEE-FILE.
 01  IN-EMPLOYEE-REC.
     05  IN-EMPLOYEE-NAME          PIC X(20).
     05  IN-SALARY                 PIC X(5).
     05  IN-NO-OF-DEPENDENTS       PIC X(1).
     05  IN-FICA                   PIC X(5).
     05  IN-STATE-TAX              PIC X(6).
     05  IN-FED-TAX                PIC X(6).
     05  DATE-OF-HIRE.
         10  MO                    PIC 9(2).
         10  DA                    PIC 9(2).
         10  YR                    PIC 9(4).
 FD  OUT-SALARY-FILE.
 01  OUT-SALARY-REC.
     05  OUT-EMPLOYEE-NAME         PIC X(20).
     05  OUT-SALARY                PIC X(5).
 WORKING-STORAGE SECTION.
 01  WS-WORK-AREAS.
     05  ARE-THERE-MORE-RECORDS    PIC X(3)  VALUE 'YES'.
*
 PROCEDURE DIVISION.
**********************************************************
*  100-main-module - controls opening and closing files  *
*                    and direction of program logic;     *
*                    returns control to operating system *
**********************************************************
 100-MAIN-MODULE.
     OPEN INPUT  IN-EMPLOYEE-FILE
          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-PROCESS-RTN
       END-READ
     END-PERFORM
     CLOSE IN-EMPLOYEE-FILE
           OUT-SALARY-FILE
     STOP RUN.
**********************************************************
*  200-process-rtn - performed from 100-main-module      *
*                    moves employee information to output *
*                    areas, then writes the record        *
**********************************************************
 200-PROCESS-RTN.
     MOVE IN-EMPLOYEE-NAME TO OUT-EMPLOYEE-NAME
     MOVE IN-SALARY TO OUT-SALARY
     WRITE OUT-SALARY-REC.
```