INDICACIONES.

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Tomando como base el siguiente código fuente, realizar las actividades solicitadas en este mismo documento.

CBL

```
      *-----------------------
       IDENTIFICATION DIVISION.
      *-----------------------
       PROGRAM-ID.    HPHMATCH
       AUTHOR.        BECA.
      *--------------------
       ENVIRONMENT DIVISION.
      *--------------------
       INPUT-OUTPUT SECTION.
       FILE-CONTROL.
           SELECT ENTRADA1   ASSIGN TO ENTRADA1
                             FILE STATUS IS WS-FS-A1.

           SELECT ENTRADB2   ASSIGN TO ENTRADB2
                             FILE STATUS IS WS-FS-B2.

           SELECT SALIDAS1   ASSIGN TO SALIDA1
                             FILE STATUS IS WS-FS-S1.

      *-------------
       DATA DIVISION.
      *-------------
       FILE SECTION.

       FD  ENTRADA1 RECORDING MODE F.
       01 REG-A1.
          05 A1-DIGITO       PIC 9(02).
          05 A1-SECUENCIA    PIC 9(02).
          05 A1-FOLIO        PIC 9(04).
          05 A1-RESTO        PIC X(162).

       FD  ENTRADB2 RECORDING MODE F.
       01 REG-B2.
          05 B2-DIGITO       PIC 9(02).
          05 B2-SECUENCIA    PIC 9(02).
          05 B2-FOLIO        PIC 9(04).
          05 B2-RESTO        PIC X(162).

       FD  SALIDAS1 RECORDING MODE F.
       01 REG-SAL.
          05 SAL-DIGITO      PIC 9(02).
          05 SAL-SECUENCIA   PIC 9(02).
          05 SAL-FOLIO       PIC 9(04).
          05 SAL-RESTO       PIC X(162).
      *
       WORKING-STORAGE SECTION.
       01 FLAGS.
         05 WS-FS-A1              PIC X(02) VALUE SPACE.
            88  FILE-A1-OK      VALUE '00'.
            88  FIN-FILE-A1     VALUE '10'.

         05 WS-FS-B2              PIC X(02) VALUE SPACE.
            88  FILE-B2-OK      VALUE '00'.
            88  FIN-FILE-B2     VALUE '10'.

         05 WS-FS-S1              PIC X(02) VALUE SPACE.
            88  FILE-S1-OK      VALUE '00'.
            88  FIN-FILE-S1     VALUE '10'.
       01 WS-CONTADORES.
         05 WS-LEIDOS-A1          PIC 9(04).
         05 WS-LEIDOS-B2          PIC 9(04).
         05 WS-ESCRITOS-S1        PIC 9(04).

       01 WS-LLAVES.
         05 WS-KEY-A1.
            10 KEY-A1-DIGITO      PIC 9(02).
            10 KEY-A1-FOLIO       PIC 9(04).
         05 WS-KEY-B2.
            10 KEY-B2-DIGITO      PIC 9(02).
            10 KEY-B2-FOLIO       PIC 9(04).

      ********************
      * DECLARACION SQL DE LA TABLA IBMUSER.EMP                       *
      *******************
                EXEC SQL DECLARE EMPLEADOT  TABLE
                        (EMPNO      INTEGER(6) NOT NULL,
                         FIRSTNME   VARCHAR(9) NOT NULL     ,
                         MIDINIT    CHAR(7) NOT NULL,     ,
                         LASTNAME   VARCHAR(10) NOT NULL,
                         WORKDEPT   CHAR(8) NOT NULL,
                         PHONENO    INTEGER(7) NOT NULL,
                         HIREDATE   DATE NOT NULL,
                         JOB        VARCHAR(8) NOT NULL,
                         EDLEVEL    INTEGER(7)  NOT NULL,
                         SEX        CHAR(3) NOT NULL),
                         BIRTHDATE  DATE NOT NULL,
                         SALARY     DECIMAL(9, 2) NOT NULL,
                         BONUS      DECIMAL(9, 2) NOT NULL,
                         COMM       DECIMAL(9, 2) NOT NULL
                         END-EXEC.




      *         ********************
      * DECLARACION SQL DE LA TABLA IBMUSER.DEPT *
      *******************
                EXEC SQL DECLARE EMPLEADOT  TABLE
                        (DEPTNO      INTEGER(3) NOT NULL,
                         DEPTNAME   VARCHAR(9) NOT NULL     ,
                         MGRNO      INTEGER(6) NOT NULL,
                         ADMRDEPT   VARCHAR(3) NOT NULL,
                         LOCATION   VARCHAR(4) NOT NULL,
                         MANAGER    VARCHAR(1) NOT NULL,
                         END-EXEC.


       PROCEDURE DIVISION.
      *------------------

            PROCEDURE DIVISION.
          EXEC SQL
             DECLARE EMP_CURSOR CURSOR FOR
                SELECT * FROM IBMUSER.EMP
          END-EXEC
          EXEC SQL
             DECLARE DEPT_CURSOR CURSOR FOR
                SELECT * FROM IBMUSER.DEPT
          END-EXEC
          EXEC SQL
             OPEN EMP_CURSOR
          END-EXEC
          EXEC SQL
             OPEN DEPT_CURSOR
          END-EXEC
          DISPLAY "EMPNO ENAME JOB MGR HIREDATE SAL COMM DEPTNO DNAME LOC"
          PERFORM UNTIL SQLCODE <> 0
       EXEC SQL
          FETCH EMP_CURSOR INTO :WS-EMP
       END-EXEC
       IF SQLCODE <> 0
          GO TO END-READ-EMP
       END-IF
       PERFORM UNTIL SQLCODE <> 0
          EXEC SQL
             FETCH DEPT_CURSOR INTO :WS-DEPT
          END-EXEC
          IF SQLCODE <> 0
             GO TO END-READ-DEPT
          END-IF
          IF WS-EMP-DEPTNO = WS-DEPT-DEPTNO
             MOVE WS-EMP TO WS-MATCH
             MOVE WS-DEPT-DNAME TO WS-MATCH-DNAME
             MOVE WS-DEPT-LOC TO WS-MATCH-LOC
             DISPLAY WS-MATCH
          END-IF
       END-PERFORM
    END-PERFORM
 END-READ-EMP.
    EXEC SQL
       CLOSE EMP_CURSOR
    END-EXEC
 END-READ-DEPT.
    EXEC SQL
       CLOSE DEPT_CURSOR
    END-EXEC
    STOP RUN.

 0000-CONTROL.
     PERFORM 1000-INICIO
     PERFORM 2000-PROCESA UNTIL FIN-FILE-A1 AND
                               FIN-FILE-B2
     PERFORM 3000-FIN
     STOP RUN.
*
 1000-INICIO.
     PERFORM 1100-INICIALIZAR-VAR
     PERFORM 1200-ABRIR-ARCHS
     PERFORM 1300-LEER-ARCH-A1
     PERFORM 1400-LEER-ARCH-B2.
*
 1100-INICIALIZAR-VAR.
     INITIALIZE WS-CONTADORES WS-LLAVES.
*
 1200-ABRIR-ARCHS.
     OPEN INPUT   ENTRADA1
                 ENTRADB2
     OPEN OUTPUT  SALIDAS1
     EVALUATE TRUE
        WHEN FILE-A1-OK AND FILE-B2-OK AND FILE-S1-OK
           CONTINUE
        WHEN OTHER
           DISPLAY 'ERROR FILE STATUS A1...' WS-FS-A1
           DISPLAY 'ERROR FILE STATUS B2...' WS-FS-B2
           DISPLAY 'ERROR FILE STATUS S1...' WS-FS-S1
           STOP RUN
     END-EVALUATE.
*
 1300-LEER-ARCH-A1.
     READ ENTRADA1
     EVALUATE TRUE
        WHEN FILE-A1-OK
           ADD 1 TO WS-LEIDOS-A1
           MOVE A1-DIGITO TO KEY-A1-DIGITO
           MOVE A1-FOLIO  TO KEY-A1-FOLIO
        WHEN FIN-FILE-A1
           CONTINUE
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```
              WHEN OTHER
                 DISPLAY 'ERROR FILE STATUS A1...' WS-FS-A1
           END-EVALUATE.
      *
       1400-LEER-ARCH-B2.
           READ ENTRADB2
           EVALUATE TRUE
              WHEN FILE-B2-OK
                 ADD 1 TO WS-LEIDOS-B2
                 MOVE B2-DIGITO TO KEY-B2-DIGITO
                 MOVE B2-FOLIO  TO KEY-B2-FOLIO
              WHEN FIN-FILE-B2
                 CONTINUE
              WHEN OTHER
                 DISPLAY 'ERROR FILE STATUS B2...' WS-FS-B2
           END-EVALUATE.
      *
       2000-PROCESA.
           EVALUATE TRUE
             WHEN WS-KEY-A1 = WS-KEY-B2
                PERFORM 2100-ESCRIBIR-SALIDA
                PERFORM 1300-LEER-ARCH-A1
                PERFORM 1400-LEER-ARCH-B2
             WHEN WS-KEY-A1 < WS-KEY-B2
                PERFORM 1300-LEER-ARCH-A1
             WHEN WS-KEY-A1 > WS-KEY-B2
                PERFORM 1400-LEER-ARCH-B2
           END-EVALUATE.
      *
       2100-ESCRIBIR-SALIDA.
           MOVE A1-DIGITO           TO SAL-DIGITO
           MOVE A1-SECUENCIA        TO SAL-SECUENCIA
           MOVE A1-FOLIO            TO SAL-FOLIO
           MOVE A1-RESTO            TO SAL-RESTO
           WRITE REG-SAL
           EVALUATE TRUE
              WHEN FILE-S1-OK
                 ADD 1 TO WS-ESCRITOS-S1
              WHEN OTHER
                 DISPLAY 'ERROR FILE STATUS S1...' WS-FS-S1
           END-EVALUATE.
      *
       3000-FIN.
           PERFORM 3100-CERRAR-ARCHS
           PERFORM 3200-DESPLEGAR-CIFRAS-CONTROL.
      *
       3100-CERRAR-ARCHS.
           CLOSE ENTRADA1
                ENTRADB2
                SALIDAS1
           EVALUATE TRUE
              WHEN FILE-A1-OK AND FILE-B2-OK AND FILE-S1-OK
                 CONTINUE
              WHEN OTHER
                 DISPLAY 'ERROR FILE STATUS A1...' WS-FS-A1
                 DISPLAY 'ERROR FILE STATUS B2...' WS-FS-B2
                 DISPLAY 'ERROR FILE STATUS S1...' WS-FS-S1
                 STOP RUN
           END-EVALUATE.



             3200-EVALUO-
             SQLCODES.
             EVALUATE SQLCODE
                WHEN SQLCODE0
                     SET NO-FIN-CURSOR TO
                TRUEWHEN SQLCODE100
                     SET FIN-CURSOR TO
                TRUEWHEN OTHER
```

```
                     MOVE 'ERROR EN CURSOR' TO UD-ERROR-
                     MESSAGESTOP RUN
             END-EVALUATE.

      *
       3200-DESPLEGAR-CIFRAS-CONTROL.
           DISPLAY '*****************************************'
           DISPLAY '***  C I F R A S  D E   C O N T R O L ***'
           DISPLAY '***  REGS. LEIDOS A1.........' WS-LEIDOS-A1
           DISPLAY '***  REGS. LEIDOS B2.........' WS-LEIDOS-B2
           DISPLAY '***  REGS. ESCRITOS S1.......' WS-ESCRITOS-S1
           DISPLAY '***  F I N   D E   E J E C U C I O N  ***'
           DISPLAY '*****************************************'.
```

JCL

```
//HPHMATCH JOB 1,NOTIFY=&SYSUID
//***************************************************/
//* Copyright Contributors to the COBOL Programming Course
//* SPDX-License-Identifier: CC-BY-4.0
//***************************************************/
//COBRUN  EXEC IGYWCL
//COBOL.SYSIN  DD DSN=&SYSUID..CBL(HPHMATCH),DISP=SHR
//LKED.SYSLMOD DD DSN=&SYSUID..LOAD(HPHMATCH),DISP=SHR
//***************************************************/
// IF RC = 0 THEN
//***************************************************/
//RUN     EXEC PGM=HPHMATCH
//STEPLIB   DD DSN=&SYSUID..LOAD,DISP=SHR
//ENTRADA1  DD DSN=&SYSUID..DATA.MATCH.A1,DISP=SHR
//ENTRADB2  DD DSN=&SYSUID..DATA.MATCH.B2,DISP=SHR
//SALIDA1   DD SYSOUT=*,OUTLIM=15000
//SYSOUT    DD SYSOUT=*,OUTLIM=15000
//CEEDUMP   DD DUMMY
//SYSUDUMP  DD DUMMY
//***************************************************/
// ELSE
// ENDIF
```

1.- Modificar ambos componentes para eliminar los 2 archivos de entrada y sustituirlos por 2 cursores.

- ✓ El primer cursor debe de leer todas las filas y columnas de la tabla IBMUSER.EMP
- ✓ El segundo cursor debe de leer todas las filas y columnas de la tabla IBMUSER.DEPT
- ✓ El programa debe de conservar su funcionalidad de match.
- ✓ Marcar con amarillo los cambios realizados en el código fuente.