

# APPENDIX H - FORTRAN EXAMPLES

This chapter covers the following topics:

- Example 1
- Example 2
- Example 3

## Example 1

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PROGRAM FEX1
C      AN EXAMPLE OF SOFT COUPLING WITH A SEARCH CRITERION WHICH
C      CONTAINS FIELDS TAKEN FROM TWO FILES. THE FIELDS PERSONNEL-ID
C      NAME, FIRST-NAME, BIRTH AND SEX (FROM THE MAIN FILE,
C      PERSONNEL-ID) ARE PRINTED FOR RECORDS THAT SATISFY THE
C      FOLLOWING CONDITION:
C          PERSONNEL-ID BETWEEN 10000001 AND 19999999
C          MODEL-YEAR-MAKE >
C          CLASS = 'C'
CHARACTER*22  STARTS
CHARACTER*20  STARTM  //'MERCEDES BENZ'//
CHARACTER*2   STAYM   //'86'//
EQUIVALENCE (STARTS,STARTM)
EQUIVALENCE (STARTS(21:21),STAYM)
C
      EXEC ADABAS
BEGIN DECLARE SECTION
      END-EXEC
C
      EXEC ADABAS
DECLARE EMPL CURSOR FOR
SELECT PERSONNEL-ID, NAME, FIRST-NAME, BIRTH, SEX
FROM EMPLOYEES, VEHICLES
WHERE EMPLOYEES.PERSONNEL-ID = VEHICLES.PERSONNEL-ID
      AND PERSONNEL-ID BETWEEN '10000001' AND '19999999'
      AND VEHICLES.MODEL-YEAR-MAKE > :STARTS
      AND VEHICLES.CLASS = 'C'
      END-EXEC
C
WRITE (6,10)
C
      EXEC ADABAS
OPEN EMPL
      END-EXEC
C
      EXEC ADABAS
FETCH EMPL
      END-EXEC
C
1 IF (SQLCOD .EQ. 3) GOTO 2
C
      WRITE (6,20) PID,NAME,FNAME,BIRTH,SEX
C
      EXEC ADABAS
      FETCH EMPL

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                END-EXEC
C
        GOTO 1
C
        2 CONTINUE
C
                EXEC ADABAS
        CLOSE EMPL
                END-EXEC
C
                EXEC ADABAS
        DBCLOSE
                END-EXEC
C
        10 FORMAT ( '1PERSONNEL-ID',8X,'NAME',13X,'FIRST-NAME',8X,
*               'BIRTH',1X,'SEX' / 1X,64('*') / )
        20 FORMAT ( 3X,A8,3X,A20,1X,A20,1X,A6,1X,A1)
C
        END

```

## Example 2

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        PROGRAM FEX2
C
        DELETE AN EMPLOYEE RECORD AND RELEASE ALL CARS WHICH ARE
C
        ASSIGNED TO THIS EMPLOYEE. A PRIVATE CARS WILL BE DELETED
C
        AND A COMPANY CAR WILL BE MADE A POOL-CAR WHICH IS IDENTIFIED
C
        BY ITS PERSONNEL-ID CONTAINING ONLY THE COUNTRY CODE.
C
        CHARACTER*8  PERSNR  //'20007100'/
        INTEGER*4   EMPISN
        CHARACTER*15 CNUM
        CHARACTER*1  CNO
        EQUIVALENCE (CNUM,CNO)
C
                EXEC ADABAS
        BEGIN DECLARE SECTION
                END-EXEC
C
                EXEC ADABAS
        READ LOGICAL
        DECLARE VEH1 CURSOR FOR
        SELECT REG-NUM, PERSONNEL-ID, CLASS
        FROM VEHICLES
        WHERE PERSONNEL-ID GE :PERSNR
        OPTIONS HOLD
        ORDER BY PERSONNEL-ID
                END-EXEC
C
C
        FIND EMPLOYEE
C
                EXEC ADABAS
        FIND
        SELECT
        FROM EMPLOYEES EMPL1
        WHERE PERSONNEL-ID = :PERSNR
        OPTIONS HOLD
                END-EXEC
C
C
        IF THE PERSONNEL-ID EXISTS DELETE THE EMPLOYEE AND READ THE
C
        VEHICLES FILE

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```

C
  IF (SQLQTY .EQ. 1) THEN
    EMPISN = SQLISN
    GOTO 3
1   GOTO 4
  ELSE
    WRITE (6,10) PERSNR
  END IF
C
2 CONTINUE
C
  EXEC ADABAS
  DBCLOSE
  END-EXEC
C
  STOP

C
C*** DELETE EMPLOYEE
C
3 CONTINUE
C
  EXEC ADABAS
  DELETE
  FROM EMPLOYEES
  WHERE ISN = :EMPISN
  END-EXEC
C
  WRITE (6,20) PERSNR
C
  GOTO 1
C
C*** DEALLOCATE CARS
C
4 CONTINUE
C
  EXEC ADABAS
  OPEN VEH1
  END-EXEC
C
  EXEC ADABAS
  FETCH VEH1
  END-EXEC
C
5 IF (SQLCOD .EQ. 3 .OR. PID .NE. PERSNR) GOTO 6
C
  IF (CLASS .EQ. 'P') THEN
    EXEC ADABAS
    DELETE
    FROM VEHICLES
    WHERE CURRENT OF VEH1
    END-EXEC
    WRITE (6,30) REGNUM
  ELSE
    CNUM = PID
    PID = CNO
    EXEC ADABAS
    UPDATE VEHICLES
    WHERE CURRENT OF VEH1
    END-EXEC
    WRITE (6,40) REGNUM
  END IF

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C
      EXEC ADABAS
      FETCH VEH1
      END-EXEC
C
      GOTO 5
C
6 CONTINUE
C
      EXEC ADABAS
      CLOSE VEH1
      END-EXEC
C
      EXEC ADABAS
      COMMIT WORK
      END-EXEC
C
      GOTO 2
C
10 FORMAT (' NO EMPLOYEE FOUND WITH PERSONNEL-ID ',A8)
20 FORMAT (' EMPLOYEE ',A8,' HAS BEEN DELETED')
30 FORMAT (' PRIVATE CAR ',A15,' HAS BEEN DELETED')
40 FORMAT (' COMPANY CAR ',A15,' HAS BEEN UPDATED')
      END

```

### Example 3

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      PROGRAM FEX3
C      SALARY INCREASE.
C      THIS PROGRAM INCREASES THE SALARY OF EVERY EMPLOYEE BY
C      4 PERCENT.
C      THE DEPARTMENT, THE OVERALL AMOUNT OF PAY RISE FOR THE
C      DEPARTMENT AND THE PAY RISE FOR ALL DEPARTMENTS WILL BE PRINTED
C      OUT.
C      THE PROGRAM IS RESTARTABLE. AFTER AN ABNORMAL TERMINATION THE
C      PROGRAM EXECUTION WOULD RESTART WITH THE LAST DEPARTMENT
C      WHOSE SALARY UPDATE HAD BEEN COMPLETED BEFORE THE ABEND
C      OCCURED.
C
      CHARACTER*10 COMDAT
      CHARACTER*6  COMDEP
      INTEGER*4   COMSUM
      EQUIVALENCE (COMDAT,COMDEP)
      EQUIVALENCE (COMDAT(7:7),COMSUM)
      CHARACTER*6  SDEP
      INTEGER*4   IND, I, J, NEWSAL, INCRS, SUMDEP, SUMTOT, ELQTY
C
      EXEC ADABAS
      BEGIN DECLARE SECTION
      END-EXEC
C
      EXEC ADABAS
      HISTOGRAM
      DECLARE EMP1 CURSOR FOR
      SELECT DEPT
      FROM EMPLOYEES E1
      WHERE DEPT GE :COMDEP
      OPTIONS PREFIX=E1
      GROUP BY DEPT
      END-EXEC

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C
      EXEC ADABAS
      READ LOGICAL
      DECLARE EMP2 CURSOR FOR
      SELECT PERSONNEL-ID, DEPT, SALARY, INCOME(COUNT)
      FROM EMPLOYEES
      WHERE DEPT GE :SDEP
      OPTIONS HOLD
      ORDER BY DEPT
      END-EXEC
C
      EXEC ADABAS
      CONNECT 'INCREASE'
      UPD=EMPLOYEES
      AND USERDATA INTO :COMDAT
      END-EXEC
C
C   A HISTOGRAM STATEMENT IS USED TO ASCERTAIN THE NUMBER OF
C   EMPLOYEES PER DEPARTMENT
C
      EXEC ADABAS
      OPEN EMP1
      END-EXEC
C
      EXEC ADABAS
      FETCH EMP1
      END-EXEC
      E1QTY = SQLQTY
C
      IF (COMDAT .NE. ' ') THEN
C
C         RESTART PROCESSING
C
C         WRITE (6,*) 'LAST PROGRAM RUN TERMINATED ABNORMALLY'
C         WRITE (6,50) COMDEP
C
C         EXEC ADABAS
C         FETCH EMP1
C         END-EXEC.
C         E1QTY = SQLQTY
      END IF
C
      SDEP = E1DEPT
C
      EXEC ADABAS
      OPEN EMP2
      END-EXEC
C
      WRITE (6,10)
C
1 IF (SQLCOD .EQ. 3) GOTO 4
C
C   THE EMPLOYEES FILE WILL BE READ UNTIL ALL RECORDS FOR THE
C   DEPARTMENT HAVE BEEN PROCESSED AND THE SALARY HAS BEEN
C   UPDATED
C
      DO 3 J=1, E1QTY
          EXEC ADABAS
          FETCH EMP2
          END-EXEC
C
      THE SALARY INCREASE CAN BE EXECUTED WHEN THE COUNT OF THE

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C          PERIODIC GROUP IS LESS THAN 40.
          IF (CINC .LT. 40) THEN
              INCRS = NINT(REAL(SALARY(1)) * 0.04)
              NEWSAL = SALARY(1) + INCRS
              IND = CINC + 1
C
          DO 2 I = CINC, 0, -1
              SALARY(IND) = SALARY(I)
              IND = IND - 1
2          CONTINUE
C
          SALARY(1) = NEWSAL
C
          EXEC ADABAS
          UPDATE EMPLOYEES
          WHERE CURRENT OF EMP2
          END-EXEC
C
          SUMDEP = SUMDEP + INCRS
          SUMTOT = SUMTOT + INCRS
          ELSE
              WRITE (6,40) PID
          END IF
C
3          CONTINUE
C
          WRITE (6,20) DEPT, SUMDEP
          SUMDEP = 0
C
          COMDEP = DEPT
          COMSUM = SUMTOT
          EXEC ADABAS
          COMMIT WORK
          USERDATA = :COMDAT
          END-EXEC
C
          EXEC ADABAS
          FETCH EMP1
          END-EXEC
          E1QTY = SQLQTY
C
          GOTO 1
C
4          CONTINUE
C
          EXEC ADABAS
          CLOSE EMP1
          END-EXEC
C
          EXEC ADABAS
          CLOSE EMP2
          END-EXEC
C
          WRITE (6,30) SUMTOT
          COMDAT = ' '
C
          EXEC ADABAS
          DBCLOSE
          USERDATA = :COMDAT
          END-EXEC
C

```

```
10 FORMAT (' DEPARTMENT',15X,'SALARY INCREASE'/1X,40('*'))
20 FORMAT (4X,A6,16X,I10)
30 FORMAT (/50('-')// ' TOTAL SALARY INCREASE : ',I11)
40 FORMAT (' UPDATE PERSON ',A8,' NOT POSSIBLE')
50 FORMAT (' LAST DEPARTMENT WAS ',A6)
  END
```