

Unit 6. Database Access using CICS

Objectives

- **Accessing Relational Database.**
- **UPDATE**
- **INSERT**
- **DELETE**
- **SELECT**

Figure: 6-1. Objectives

Notes :

INSERT is used to insert records into the table.

UPDATE is to modify the existing records through the primary key.

DELETE is used to delete the records from the table.

SELECT is used to retrieve the records from the table

Elements of changing existing rows

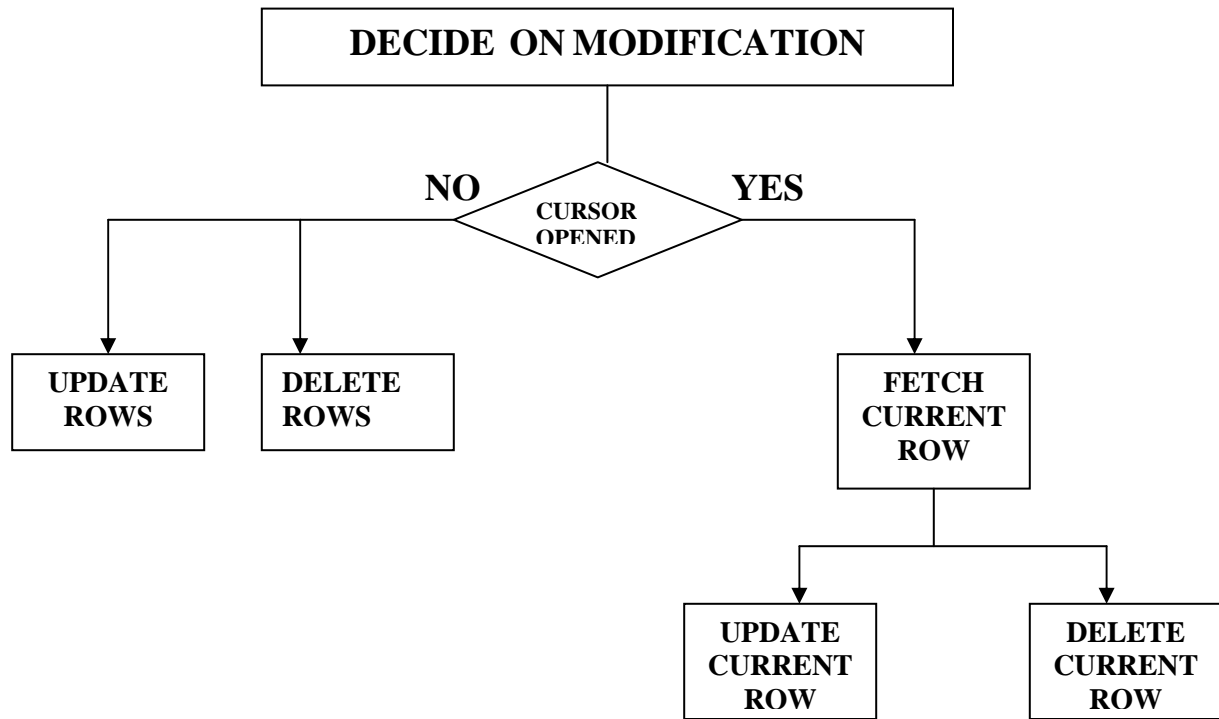


Figure: 6-2. Elements of changing existing rows.

Notes :

CURSOR is used to fetch the records one or more from the table.

SQL Table Updates

```
MOVE VALUE TO EMPNO.  
MOVE VALUE TO WDEPT.  
EXEC SQL  
  UPDATE MTPL  
  SET MIDINIT='M'  
  WHERE EMPNO=:EMPNO  
END-EXEC.  
  
IF SQLCODE IS NOT EQUAL TO ZERO  
  IF SQLCODE=100  
    PERFORM NOTFOUND-PARA  
  ELSE PERFORM ERROR-PARA  
  .....  
.....
```

Figure: 6-3. SQL Table updates.

Notes :

If no rows satisfy the search condition of the WHERE clause , the program receives the NOTFOUND code(SQLCODE=100).

If the WHERE clause is omitted, every row in the table will be updated.

Update with Cursor

WORKING-STORAGE SECTION.

.....
.....

```
EXEC SQL
    DECLARE MTPL CURSOR FOR
    SELECT EMPNO,FIRSTNAME,DEPT FROM
    MCPL WHERE WDEPT=:DEPT
    FOR UPDATE OF JOBCODE
END-EXEC.
```

.....
.....

PROCEDURE DIVISION.

```
MOVE value TO DEPT
EXEC SQL
    OPEN MTPL
END-EXEC.
PERFORM UNTIL SQLCODE=100
EXEC SQL
    FETCH MTPL INTO :ENUM,:FNAME,:WDEPT
END-EXEC.
.....
.....
.....
EXEC SQL CLOSE MTPL END-EXEC.
.....
```

Figure: 6-4. Update with Cursor.

Notes :

When using the cursor only the current row may be deleted.

After a delete or update of a row, you cannot update or delete another row using that cursor until you issue a fetch statement for the next row.

Inserting a single row

```
MOVE VALUE TO EMPNO.  
MOVE VALUE TO WDEPT.  
EXEC SQL  
    INSERT INTO MCPL VALUES(:EMPNO,:WDEPT)  
END-EXEC.  
  
IF SQLCODE IS NOT EQUAL TO ZERO  
    IF SQLCODE=-803  
        PERFORM DUPROW-PARA  
    ELSE PERFORM ERROR-PARA  
    .....  
.....
```

Figure: 6-5. Inserting a single row

Notes :

You must supply values for columns that have been defined as not null and were not assigned a default value.

Deleting a row

```
MOVE VALUE TO ENO.  
EXEC SQL  
    DELETE FROM MCPL WHERE EMPNO=:ENO  
END-EXEC.
```

```
IF SQLCODE IS NOT EQUAL TO ZERO  
    IF SQLCODE=100  
        PERFORM NOTFOUND-PARA  
    ELSE PERFORM ERROR-PARA  
    .....  
.....
```

Figure: 6-6. Deleting a row.

Notes :

All rows which satisfy the search condition are deleted.

If **where** clause is omitted, all rows will be deleted.