DML Commands

Editing Data

DML Commands

- ❖ **Editing Commands**
  - ◆ Insert
  - ◆ Update
  - ◆ Delete
- ❖ **Review Command**
  - ◆ Select

Insert

- *Insert* is used to add a new row to a table or view
  - View is similar to a query in Access, a predefined select statement
- Can add one or more rows
  - Syntax varies depending on number of rows

Insert Syntax For One Row

INSERT INTO *tablename[(field list)]*

    VALUES(value list)

❖ *Field list* is optional

    ◆ If field list is omitted, values expected for all columns (except IDENTITY)

Insert Single Row Examples

INSERT INTO Students(StudentID)
    VALUES('875001234')

INSERT INTO Courses(Department, CourseNumber)
    VALUES('CIS','182')

INSERT INTO Courses
    VALUES('CIS','282','SQL Projects',5,'Using SQL for
        application back-end')

Using Default Values

- A default value can be entered by
  - Including field in field list and using DEFAULT key word in Values list
  - Omit field from field list and value from Values list
- Assume Department defaults to CIS:

  INSERT INTO Courses(Department, CourseNumber)

  VALUES(DEFAULT,'145')

  INSERT INTO Courses(CourseNumber)

  VALUES('145')

Assigning Null Values

- ❖ **If Null is acceptable for a column**
  - ◆ **Omit field from field list; Or**
  - ◆ **Use NULL in Value list**
- ❖ **Assume Course description is optional:**

INSERT INTO Courses

    VALUES('CIS','282','SQL Projects',5,Null)

INSERT INTO Courses(Department, CourseNumber, Title, Credits)

    VALUES('CIS','282','SQL Projects',5)

Update

- *Update* is used to change an existing row
- Can change one, some or all rows in a table or view
  - A *WHERE* clause is used to specify specific rows to change
    - WHERE represents a true/false description of a row
    - Multiple conditions require a *logical operator*

Update Syntax

UPDATE *tablename*

    SET field1 = value1,

      field2 = value2

    [WHERE *condition*]

- Each field to change is listed with the value to store in that field
  - Comma separates each field/value pair
- WHERE condition is same as *criteria* in Access

Update Examples

❖ Assign value to zip code for 2nd publisher:

UPDATE publishers

   SET pub_zip = 20006

    WHERE pub_id = 0877

❖ Change publisher name to add 'Ltd.' for any Massachusetts publisher:

UPDATE publishers

   SET pub_name = pub_name + 'Ltd.'

   WHERE pub_state = 'ma'

Delete

- *Delete* removes one or more rows from the table
  - No field list is included
  - May specify which rows to remove by adding WHERE clause

Delete Syntax

DELETE FROM *tablename*
   [WHERE *condition*]

❖ Not including a where clause removes all rows from a table

Delete Examples

DELETE FROM Publishers
   WHERE pub_state <>'ca'

DELETE FROM Publishers
   WHERE pub_zip IS NULL OR
  pub_state = 'wa'

DELETE FROM Publishers