

CIS560

Data Modification Part 2



Data Modification

- Remember, SQL has two parts:
 - Data Manipulation Language (DML)
 - Data Definition Language (DDL)
- We have been learning the SELECT statement.
- SELECT is one of six statements in DML.
- DML allows
 - Inserting (INSERT statement)
 - Updating (UPDATE statement)
 - Deleting (DELETE and TRUNCATE statements)
 - Combinations (MERGE statement)



Deleting Data

- There are two ways to delete data in SQL.
 - DELETE
 - Supports FROM clause, but non-standard
 - All rows deleted as an atomic operation.
 - TRUNCATE
 - Deletes ALL rows
 - Minimally logged, so it's fast
 - Resets the IDENTITY value.
 - Can have no foreign keys referencing the table.



Updating Data

- UPDATE Statement
 - All rows updated as an atomic operation.
- Non-standard support:
 - FROM clause, as in the DELETE statement.
 - Variable assignments as an atomic operation.



Syntax

Standard DELETE

```
DELETE [ FROM ] <table>
[ WHERE <search_condition> ]
```

Non-Standard DELETE

```
DELETE [ FROM ] <table_alias>
[ FROM { <table_source> [ AS ] <table_alias> } [ ,...n ] ]
[ WHERE <search_condition> ]
```

```
<table_source> ::=
{ <table> | <table_expression> | <joined_table_expression> }
```

Non-Standard TRUNCATE

```
TRUNCATE TABLE <table>;
```



Syntax

Standard UPDATE

```
UPDATE <table>
SET
    column_name = { expression | DEFAULT | NULL } [ ,...n ]
[ WHERE <search_condition> ]
```

Non-Standard UPDATE

```
UPDATE <table_alias>
SET
    { column_name = { expression | DEFAULT | NULL }
      | @variable = expression
      | @variable = column = expression } [ ,...n ]
[ FROM { <table_source> [ AS ] <table_alias> } [ ,...n ] ]
[ WHERE <search_condition> ]
```

```
<table_source> ::=
{ <table> | <table_expression> | <joined_table_expression> }
```

