

Introduction to SQL – 3

Data Manipulation Commands

(for Lab 3)

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Outline

- Insert
- Select
- Update
- Delete

Data Manipulation Commands

- Adding table rows
- Saving table changes
- Listing table rows
- Updating table rows
- Restoring table contents
- Deleting table rows
- Inserting table rows with a select subquery

Adding Table Rows

- INSERT
 - Used to enter data into table
 - Syntax:

```
INSERT INTO columnname  
VALUES (value_1, value_2, ... , value_n);
```

Adding Table Rows (continued)

- When entering values, notice that:
 - Row contents are entered between parentheses
 - Character and date values are entered between apostrophes
 - Numerical entries are not enclosed in apostrophes
 - Attribute entries are separated by commas
 - A value is required for each column
- Use NULL for unknown values

Saving Table Changes

- Changes made to table contents are not physically saved on disk until, one of the following occurs:
 - Database is closed
 - Program is closed
 - COMMIT command is used
- Syntax:

```
COMMIT [WORK] ;
```
- Will permanently save any changes made to any table in the database
- Note that [WORK] is optional

Listing Table Rows

- SELECT

- Used to list contents of table
- Syntax:

```
SELECT columnlist  
FROM tablename;
```

- *Columnlist* represents one or more attributes, separated by commas
- Asterisk can be used as wildcard character to list all attributes

Updating Table Rows

- UPDATE

- Modify data in a table
- Syntax:

```
UPDATE tablename  
SET columnname = expression [, columnname =  
expression]  
[WHERE conditionlist];
```

- If more than one attribute is to be updated in row, separate corrections with commas

Deleting Table Rows

- DELETE

- Deletes a table row

- Syntax:

```
DELETE FROM tablename  
[WHERE conditionlist ] ;
```

- WHERE condition is optional
- If WHERE condition is not specified, all rows from specified table will be deleted

References

- MySQL Reference on INSERT
- <https://dev.mysql.com/doc/refman/8.0/en/insert.html>
- MySQL Reference on SELECT
- <https://dev.mysql.com/doc/refman/8.0/en/select.html>
- MySQL Reference on UPDATE
- <https://dev.mysql.com/doc/refman/8.0/en/update.html>