

SQL Lecture Notes

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- **What is SQL**

- Structured Query Language
- Using sql one can store manipulate and retrieve data stored in databases

- **What can SQL do**

- SQL can execute queries against a database
- Create new databases and tables in a database
- it can retrieve data from a database
- Insert records in database
- update records in database
- delete records in database

- **Data definition language**
 - CREATE databases, tables
 - ALTER databases, tables
 - DROP tables
- **Data Manipulation Language**
 - **SELECT** extracts data from databases
 - **UPDATE** updates data in a database
 - **DELETE** deletes data from tables
 - **INSERT INTO** inserts data into tables

- **Creating a database:**

```
CREATE DATABASE databasename
```

- **Create a table:**

```
CREATE TABLE tablename
```

```
(  
  column1 datatype,  
  columnname2 datatype,  
  columnname3 datatype,  
  ...  
)
```

- Data types: bigint,int,datetime,char,varchar,text,image
list at : http://www.w3schools.com/sql/sql_datatypes.asp
- Alter: deprecated can be done by frontend
- **Deleting a table:**
DROP TABLE tablename

Insert data into table

- INSERT INTO table_name
VALUES (value1, value2, value3,...)
- INSERT INTO table_name (column1, column2, column3,...)
VALUES (value1, value2, value3,...)

Select data

- SELECT column_name(s)
FROM table_name
- SELECT * FROM table_name
- SELECT DISTINCT column_name(s)
FROM table_name
- **Selecting data items based upon some condition**
WHERE
SELECT column_name(s)
FROM table_name
WHERE column_name operator value
- Operators:=, <>, <, >, <=, >=, BETWEEN, LIKE
- conditions may be joined using AND/OR

Select data

- **Sorting on some attribute**

```
SELECT column_name(s) FROM table_name  
WHERE condition(S)  
ORDER BY column_name(s) ASC—DESC
```

- **Updating some data items**

```
UPDATE table_name SET column1=value,  
column2=value2, . . . WHERE some_column=some_value
```

- What if we omit where clause?

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- DELETE FROM table_name
WHERE some_column=some_value
- How would you delete all rows?

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- DELETE FROM table_name
WHERE some_column=some_value

- How would you delete all rows?

- DELETE * FROM table_name

- **The Average function**

```
SELECT AVG(column_name) FROM table_name
```

- **The Count function**

```
SELECT COUNT(column_name) FROM table_name
```

- **To count distinct values**

```
SELECT COUNT(DISTINCT column_name) FROM  
table_name
```

- **The max function**

```
SELECT MAX(column_name) FROM table_name
```

- **Similarly there is a min function**

- **The sum function**

```
SELECT SUM(column_name) FROM table_name
```

- **The now function**

```
SELECT ProductName, UnitPrice, Now( as PerDate FROM  
Products)
```

Implode/Explode PHP

- **implode** Join array elements with a string
- `$string = implode (string $glue , array $pieces)`
- Returns String containing all array elements with glue between each element

Implode/Explode PHP

- **implode** Join array elements with a string
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- Returns String containing all array elements with glue between each element
- **explode** Split a string by string and stores in an array
- `$array = explode (string $delimiter , string $string [, int $limit])`
- positive and negative limits
- explode returns an array containing the string