**UDEMY (THE COMPLETE SQL BOOTCAMP)**

**DATABASES:**

They are the system the allows used to store and organize data, useful when dealing large amounts of data. Data integrity, massive amount of data, easy combining of different datasets, aut0omate steps for re-use.

Can be used by

1. Analysts – Marketing, Business, Sales
2. Technical – Data Scientist, Software Engineers, Web Development

**Database Management System:**

Systems to manage data in the databases.

Types:

Hierarchal Database Management System

Network Database Management System

Relational Database Management System

Object Oriented Database Management System

**ANSI SQL**🡪 American National Standards Institute Structured Query Language ()

Language to communicate with the database.

**Relational Databases:**

MySQL, SQLite, PostgreSQL, Oracle.

Commands:

1) show databases;

2) create database <name>;

3) drop database <name>:

**Table:**

Tables are the true hearts of the SQL.

It has collection of related data held in a structured format within a database

Commands:

1) create table <name>;

2) delete from <name>;

3) drop table <name>;

**Datatypes: Common (int, varchar(n))**

**Numeric Type:** int, smallint, tinyint, mediumint, beginint, decimal, numberioc, float, double, bit

**Numeric Functions:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type** | **Storage (bytes)** | **Minimum Value Signed** | **Minimum Value Unsigned** | **Maximum Value signed** | **Maximum Value Unsigned** |
| **TINYINT** | **1** | **-128** | **0** | **127** | **255** |
| **SMALLINT** | **2** | **-32768** | **0** | **32767** | **65535** |
| **MEDIUMINT** | **3** | **-8388608** | **0** | **8388607** | **16777215** |
| **INT** | **4** | **-2147483648** | **0** | **2147483647** | **4294967295** |
| **BIGINT** | **8** | **-263** | **0** | **263-1** | **263 -1** |

**String Type:** char, varchar, binary, varbinary, blob, tinyblon, mediumblob, longblob, text, tinytext, mediumtext, longtext, enum

**String Function:**

**1) varchar (n):** Only upper limit is exhibited, original length below the fixed length won’t add space.

**2) char (n):** fixed length, which cannot change any length of the string. Adds space to manage extra free digits

**Date Types:** date, datetime, timestamp, time, year

**Select:**

To choose the values or columns needed.

Commands:

1) select \* from <name>;

2) select <column> form <name>;

**Insert:**

To insert values with their corresponding column.

Commands:

1) insert into <name> (<col\_1> datatype, <col\_2> datatype) values (‘value\_1’,’values\_2’);

**Describe table (DESC):**

To describe the table.

**Null Value (NULL / NOT NULL):**

If there is a column in a table, that was not mentioned in the insert command, then the new entry will have null value in the corresponding row with its corresponding column. Add NOT NULL to prevent entry from not mentioning a NOT NULL value.

**Primary Key (PRIMARY KEY):**

Each and every column are differed by this primary key, it must be unique and not used again.

**Auto Increment (AUTO\_INCREMENT):**

The values in the rows will be automatically assigned, and will not be needed to mentioned them in the insert command.

**Default (DEFAULT):**

Default command is used to fill the alternative if the value is not assigned during data entry.

**Unique:**

Ensures that the already entered data is not being entered again.

**Check:**

To Check a condition if it is true, to run the query.

**Alias:**

It is used to rename the column temporarily

**Update:**

Used to change the data/value/entry in the data table.

Commands:  
1) update <name> set <column>=’<modified-data>’ where <ref.column>=<value-of-ref.column>

**Rule of Thumb:**

Before updating use select and where to identify correctly the position of the data to be updated and proceed.

**Delete:**

To delete the records from the table. Use where to specify the particular data.

Command:

1) delete from <name> 🡪 to delete all record.

2) delete from <name> where <ref.column>=<value-of-ref.column> 🡪 to delete a column.

3) delete from <name> 🡪 to delete particular data from the table with its reference value.

**CONCAT:**

Concatenation /Combination of strings.

Commands: SELECT CONCAT (‘h’,’l’,’o’);

mysql>> hlo

**Sub String:**

Takes a large string and returns a small portion of it.

Command:

1) Select Substring (‘hello’ , 1 , 3);

2) Select SUBSTR(‘hello’ , 1 , 3);

**Replace:**

Replace the Parts of the string.

Commands:

1) Replace (srt,from\_str,to\_str);

**CHAR\_LENGHT:**

To see the bytes taken for any string.

Commands:

1) CHAR\_LENGTH(fname);

**UPPER & LOWER:**

To change the case of the string.

**REPLACE:**

To replace the strings with another string

**LEFT & RIGHT:**

To print the str from left or right.

**REPEAT:**

To repeat the str with mentioned time.

**TRIM:**

To remove certain strings.

**DISTINCT:**

Return the same value only once from every column

**LEADING:**

To select the str following the str mentioned.

**ORDER BY:**

To order the result based on the order of ().

**LIMIT:**

To set a boundary to a data used in select command.

**LIKE:**

To return the values like input in the given column.

**COUNT:**

To count the no. of. value in the column.

**GROUP BY:**

Create a group based on the condition.

**SUB-QUERIES:**

Queries inside another larger queries. (**Exit mysql from cmd:** quit)