**SQL**

* SQL stands for Structured Query Language
* SQL lets you access and manipulate databases
* SQL can execute queries against a database
* SQL can retrieve data from a database
* SQL can insert records in a database
* SQL can update records in a database
* SQL can delete records from a database
* SQL can create new databases
* SQL can create new tables in a database
* SQL can create stored procedures in a database
* SQL can create views in a database
* SQL can set permissions on tables, procedures, and views

In Tables there will be rows and columns in that we use the primary key to uniquely identify the values in that keys there are 2 types one is surrogate key and natural key

1) surrogate key is just some unique value that we use to map the attributes in the table

2) Natural keys are the values which has a meaning in the real world like social security number

**Foreign key**

-> it is nothing but one table having another table primary keys as a column

**DATA Types**

INT

DECIMAL(M,N) where M= digit length N = decimal length

VARCHAR(20)

BLOB (used for content like images and big files)

DATE

TIMESTAMP

**Creating Table (used to create table)**

CREATE TABLE student(

ID INT PRIMARY KEY,

Name VARCHAR(20),

Major VARCHAR(20)

);

**DESCRIBE (is used to see the table structure )**

DESCRIBE student;

**DROP (is used to delete table or column of table)**

DROP TABLE student;

**ALTER (is used to modify the table like we can add the column to the table)**

ALTER TABLE student ADD Marks VARCHAR(20) ;

ALTER TABLE student DROP COLUMN Marks;

**INSERTING DATA into TABLE**

INSERT INTO student VALUES(1,’SAM’,’Biology’);

INSERT INTO student(Std\_ID, NAME)  
VALUES (2, 'Stev');

**SELECT**

SELECT \* FROM student;

SELECT NAME,MAJOR

FROM students;

SELECT \* FROM student

WHERE Major=’ARTS’;

**NOT NULL (when we define not null this column can't have null values)**

**UNIQUE (we use this to make column take only unique values)**

**DEFAULT is used to assign the value if we don’t insert the value**

**AUTO-INCREMENT is used for the automatically increment the values by it-self**

CREATE TABLE student(

ID INT AUTO\_INCREMENT,

Name VARCHAR(20) NOT NULL,

Major VARCHAR(20) UNIQUE,

CLASS VARCHAR(20) DEFAULT ‘A’

);

**UPDATE**

UPDATE student

SET Major = ‘BIO’ , Name = ‘Tom’ // we can set multiple values by ,

WHERE Major = ‘Biology’;

We can use conditions after where like = , <>(not equal) , < , >, <= and >=

OR AND operations can be also done

**DELETE (we can delete the rows in a table by using delete)**

DELETE FROM student // it will delete all rows but not the table like drop

DELETE FROM student

WHERE Std\_ID = 1;

**SELECT DISTINCT (it is used to get the unique values by filtering the duplicates )**

SELECT DISTINCT NAME,MAJOR,AGE FROM students;

**ORDER BY** (used to sort in ascending or descending order)

SELECT \* FROM students

Order BY NAME;

SELECT \* FROM students

Order BY NAME DESC; // DESC is used to sort in descending order

**LIMIT (it is used to limit the numbers of tables rows to display )**

SELECT \* FROM students

ORDER BY NAME;

LIMIT 2;

MORE on SELECT

SELECT \* FROM student

WHERE Name IN ('John','David');