SQL

SQL is a standard language for accessing and manipulating databases.

What is SQL?

- SQL stands for Structured Query Language
- SQL lets you access and manipulate databases
- SQL became a standard of the American National Standards Institute (ANSI) in 1986, and of the International Organization for Standardization (ISO) in 1987

SQL Queries

Creating a Database:

CREATE DATABASE databasename

Eg: create database mydb

Creating a table

CREATE TABLE table_name (column1 datatype,
column2 datatype,
column3 datatype,....)

Eg: create table mytable (emp_id int,emp_name text)

Create Constraints:

CREATE TABLE table_name (
column1 datatype constraint,
column2 datatype constraint,
column3 datatype constraint,....);

The following constraints are commonly used in SQL:

NOT NULL - Ensures that a column cannot have a NULL value
UNIQUE - Ensures that all values in a column are different
PRIMARY KEY - A combination of a NOT NULL and UNIQUE. Uniquely identifies each row in a table
CHECK - Ensures that all values in a column satisfies a specific condition (salary>50000)
DEFAULT - Sets a default value for a column when no value is specified

Insert Data into Table

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

INSERT INTO table_name
VALUES (value1, value2, value3, ...)
```

Get Data From Table

```
SELECT * FROM table_name
```

Get Specific Columns:

```
SELECT column1, column2, …  FROM table_name
```

Get unique values:

```
SELECT DISTINCT column1, column2,.. FROM table_name
```

Get Data Based on specific condition

```
SELECT column1, column2, … FROM table_name WHERE condition
```

Specifying Multiple Conditions (AND, OR)

```
SELECT column1, column2, … FROM table_name WHERE condition1 AND   condition2
```

Order By:

```
SELECT column1, column2, … FROM table_name ORDER BY column1, column2, ...     ASC|DESC
```

Select Top:

```
SELECT TOP number FROM table_name WHERE condition;
```

Update Data in table

```
UPDATE table_name SET column1 = value1, column2 = value2, …  WHERE condition
```

Delete Data from table

```
DELETE FROM table_name WHERE condition
```

AVG(), Sum(), Count()

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

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

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

Delete Database

```
DROP DATABASE databasename;
```

Delete Table

```
DROP TABLE tablename;
```

Add Columns to table

```
ALTER TABLE table_name ADD column_name datatype
```

Delete Columns from table

```
ALTER TABLE table_name DROP COLUMN column_name
```