

Basics

- SQL = Structured Query Language
- Sequel (also known as)
- Data are information in form of numbers, text, images, videos about something
- Database is repository of data
 - Provide addition, modifying, querying data
 - Relational data base: Database in form of row and column
- DBMS : Data base management system is software and tools used to handle data
- RDBMS: Relational DBMS
 - Example: MYSQL, Oracle Database, IBM Db2

SQL Commands

- Create table
 - CREATE TABLE <tablename>
 - (
 - Column1 datatype optional_parameters,
 - Column2 datatype,
 -
 - Column datatype
 -)
 - Datatypes
 - char(2): AB, BC
 - varchar(24): ABC DEF, A-123-BCD-456
 - BIGINT: 5551111 (19 digit long number)
 - Optional datatype
 - PRIMARY KEY : unique for each row
 - NOT NULL : Always value must be there
- Insert
 - INSERT INTO <tablename> <column 1, column 2,...> VALUES('V1', 'V2',....)
 - Used to insert a row with mentioned column names and values
 - INSERT INTO <tablename> <column 1, column 2,...> VALUES('V1', 'V2',....)('v1', 'v2',....)
 - Used to add 2 rows
- Select
 - **select * from <tablename>**
 - Used to select all content from the table named <tablename>
 - **select column 1, column 2, column 3 from <tablename>**
 - Used to select Column 1, 2, 3 from the entire table <tablename>
 - select column 1, column 2 from <tablename> **WHERE column 1='Some Value'**
 - Used to select column 1,2,3 if column 1 is equal to 'some value'
 - select **COUNT(*)** from <tablename>
 - Used to count total number of rows in the table
 - select **COUNT(column 1)** from <tablename> where column 1 = 'Some text'
 - Used to count number of rows which have column 1 = 'Some text'
 - select **DISTINCT column 1** from <tablename>
 - used to identify distinct values of the column 1

- select distinct column 1 from <tablename> where column 2='Some text'
Used to identify distinct values in column 1 which has column 2='Some text'
- select * from <tablename> **LIMIT 10**
Used to display only first 10 rows
- select * from <tablename> where column 1= 'some text' LIMIT 5
Used to display only first 5 results where column 1= 'some text'
- Update
 - UPDATE <tablename> set column 1= 'V1' column2='V2' WHERE column3='V3'
- Delete
 - DELETE FROM <tablename> WHERE column1 in ('V1','V2')
- Relational database operator
 - =, <, >, >=, <=, <> (not equal)
- ALTER (DDL)
 - ALTER TABLE <tablename>
 - ADD COLUMN column1 datatype
Used to add new column
 - ALTER TABLE <tablename>
 - ALTER COLUMN column1 SET DATA TYPE datatype
Used to change data types of column
 - ALTER TABLE <tablename>
 - DROP COLUMN column1
Used to remove the column1
- DROP (DDL)
 - DROP TABLE <tablename>
Used to delete table
- TRUNCATE (DDL)
 - TRUNCATE TABLE <tablename> IMMEDIATE
Used to remove all rows data from table but keeping the table

Entity Relationship Model

- Used to design relational database
- Entity and Attributes are building block of ER diagram
- Entity : Noun : Book : Rectangle Box
- Attributes : Characteristics of Entity : Author, Publisher, Edition :
- Entity → Table name
- Attributes → Column titles
- Primary key: To identify each row in a table
- Foreign key: To create the link between the table

Types of SQL Statements

- DDL : Data Definition Language
 - Define, change, drop data base objects not data
 - Its defined attributes not values
 - CREATE, , Alter, Truncate, Drops
- DML : Data Manipulation Language
 - Read and Modify Data
 - Insert, Select, Read, Update, Delete