**SQL Database**

Let’s Start:

* MySQL is a database system used on the web
* MySQL is a database system that runs on a server
* MySQL is ideal for both small and large applications
* MySQL is very fast, reliable, and easy to use
* MySQL uses standard SQL
* MySQL compiles on a number of platforms
* MySQL is free to download and use
* MySQL is developed, distributed, and supported by Oracle Corporation
* MySQL is named after co-founder Monty Wideness’s daughter: My

The data in a MySQL database are stored in tables.

A table is a collection of related data, and it consists of columns and rows.

SQL vs MYSQL:

SQL: It is a structured query programming language that manages the relational database management system

MYSQL: It is a relational database management system that uses SQL.

A query is a question or a request.

Query: Database Code.

***Database***:

CREATE DATABASE *databasename*;

DROP DATABASE *databasename*;

***Table***:

CREATE TABLE *table\_name*(  
*column1 datatype*,  
*column2 datatype*,  
*column3 datatype*,  
   ....  
);

DROP TABLE *table\_name*;

TRUNCATE TABLE *table\_name*;

CREATE TABLE Persons (  
    PersonID int,  
    LastName varchar(255),  
    FirstName varchar(255),  
    Address varchar(255),  
    City varchar(255)  
);

***Data Types***:

* VARCHAR(size)
* TEXT(size)
* BOOL
* INT(*size*)
* INTEGER(*size*)
* FLOAT(*size*, *d*)
* DATE

***Constraints:***

CREATE TABLE *table\_name*(  
*column1 datatype* *constraint*,  
*column2 datatype* *constraint*,  
*column3 datatype* *constraint*,  
    ....  
);

* Not Null:
  + ID int NOT NULL,
* UNIQUE:
  + ID int NOT NULL UNIQUE,
* Primary Key:
  + ID int NOT NULL PRIMARY KEY,
  + CONSTRAINT PK\_Person PRIMARY KEY (ID)
* FOREIGN KEY:
  + FOREIGN KEY (PersonID) REFERENCES Persons(PersonID)
* Check:
  + Age int CHECK (Age>=18)
  + CONSTRAINT CHK\_Person CHECK (Age>=18 AND City='Sandnes')
* DEFAULT:
  + City varchar(255) DEFAULT 'Sandnes'
  + OrderDate date DEFAULT GETDATE()
* AUTO INCREMENT:
  + Personid int NOT NULL AUTO\_INCREMENT,

***Alter Table:***

* ALTER TABLE *table\_name*  
  ADD *column\_name datatype*;
  + ALTER TABLE Customers  
    ADD Email varchar(255);
* ALTER TABLE *table\_name*  
  DROP COLUMN *column\_name*;
  + ALTER TABLE Customers  
    DROP COLUMN Email;
* ALTER TABLE *table\_name*  
  RENAME COLUMN *old\_name* to *new\_name*;

***Alter Table***:

* INSERT INTO *table\_name* (*column1*,*column2*,*column3*, ...)  
  VALUES (*value1*,*value2*,*value3*, ...);
* INSERT INTO *table\_name*  
  VALUES (*value1*,*value2*,*value3*, ...);
  + INSERT INTO Customers (CustomerName, City, Country)  
    VALUES ('Cardinal', 'Stavanger', 'Norway');

***Update Statement:***

* UPDATE *table\_name*  
  SET *column1*=*value1*,*column2*=*value2*, ...  
  WHERE *condition*;
  + UPDATE Customers  
    SET ContactName = 'Alfred Schmidt', City= 'Frankfurt'  
    WHERE CustomerID = 1;
  + UPDATE Customers  
    SET ContactName='Juan'  
    WHERE Country='Mexico';
  + UPDATE Customers  
    SET ContactName='Juan';

***Delete Statement:***

* DELETE FROM table\_name WHERE condition;
  + DELETE FROM Customers WHERE CustomerName='Alfreds Futterkiste';
* DELETE FROM *table\_name*;
  + DELETE FROM Customers;

***Drop Table:***

* DROP TABLE Customers;