Practical -2

MySQL Create Database and Table, Insert Records into Tables

- Create Database

  It will create the database in MySQL

  Syntax : CREATE DATABASE [IF NOT EXISTS] database_name [CHARACTER SET charset_name] [COLLATE collation_name];

  The database name must be unique within the MySQL er instance.

  you can specify **IF NOT EXISTS** option. In this case, MySQL does not issue an error but terminates the CREATE DATABASE statement instead.

  If you omit the CHARACTER SET and COLLATE clauses, MySQL uses the default character set and collation for the new database. It is optional

e.g : mysql> CREATE DATABASE testdb;

- Show the databases

  Syntax : SHOW DATABASES;

  e.g mysql> show databases;

  output : information_schema
  mysql
  performance_schema
  sys
  testdb

  Syntax : SHOW DATABASES [like pattern];

  Show only those database which match the pattern

  e. g : mysql > show databases like 't%' ;

  shows all database whose name start with charater 't'

  output : test
  testdb

- Use of Database

  For using created database

  Syntax : USE <database name>;

  e.g mysql> use testdb;

  SELECT DATABASE();

shows currently selected database.

- Delete Database

The DROP DATABASE statement drops all tables in the database and deletes the database permanently.
Syntax : DROP DATABASE [IF EXISTS] database_name;

DROP SCHEMA [IF EXISTS] database_name;
e.g drop database if exists test;
To prevent an error from occurring if you delete a database that does not exist, you can use the IF EXISTS option

e.g drop schema testdb;
show databases;

- Create Table

Creating table inside the current database. It is used to define a schema of the table. Create table syntax also contains the constraints and it also show the relationship between two table.
Syntax : CREATE TABLE [IF NOT EXISTS] table_name(column_ name datatype [constraint] ,
Column_name datatype [constraint] ,
Column_name datatype [constraint]);

Table name must be unique in the database
If not exists : will create table only table_name is not exists into database. If it is exists it will stop executing the query.

E.g create table test(no tinyint(2) , name varchar(20));

e.g CREATE TABLE if not exists publisher(
pub_id varchar(8),
pub_name varchar(50),

pub_city varchar(25),
country varchar(25),

```
country_office      varchar(25),
no_of_branch        int(3),
estd    date);
```

- Shows tables of the database
  Display list of tables available in current selected database.
  Syntax : show tables;
- Checking a structure of a table
  MySQL DESCRIBE statement is used to show the structure/schema of the created table.

Syntax : DESCRIBE <table_name>;

e.g DESCRIBE test ; // test is a table name

DESCRIBE publisher ;

Output:

```
+..................+..............+.....+.....+.........+.....+
| Field              | Type         | Null | Key | Default | Extra |
+..................+..............+.....+.....+.........+.....+
| pub_id           | varchar(8) | YES  |       | NULL    |       |
| pub_name       |varchar(50) | YES  |     | NULL    |       |
| pub_city         |varchar(25) | YES  |      | NULL    |       |
| country          |varchar(25) | YES  |      | NULL    |       |
| country_office | varchar(25) | YES |      | NULL    |       |
| no_of_branch   | int            | YES  |     | NULL    |       |
| estd               | date          | YES  |     | NULL    |       |
+..................+..............+.....+.....+.........+.....+
```

Some Constraint can be mention at the time of creation of table.

- The NOT NULL indicates that the column does not allow NULL.

- The DEFAULT value is used to specify the default value of the column.

- The AUTO_INCREMENT indicates that the value of the column is generated by one automatically whenever a new row is inserted into the table. **Each table has one and only one AUTO_INCREMENT column.**

e.g
CREATE TABLE IF NOT EXISTS tasks (task_id INT AUTO_INCREMENT,
title VARCHAR(255) NOT NULL,
start_date DATE,
due_date DATE,
status TINYINT NOT NULL,
priority TINYINT NOT NULL,
description TEXT);

it create table task with task_id that automatic increment.
Title, status,priority is not null constraint. That is values of these fields should not be null/empty

If values are not inserted in NOT NULL fields – it generate an error.

- insert values into table.
  Insert one or more records/rows into table.
  Syntax : INSERT INTO table_name(c1,c2,...)
  VALUES
  (v11,v12,...),
  (v21,v22,...),
  ...

  (vnn,vn2,...);

  In this syntax, rows are separated by commas in the VALUES clause.

  Table_name : name of the table
  (c1,c2,..) : Are all column names of the table for which values to be inserted (v11,v12,..) : Are the actual values of respective column(c1,c2) {sequence is important}
  Text/char datatype columns value inserted with single quote ‘ ‘
  Multiple row can be inserted at same time, it rows are separated by commas in Value clause.

  E.g Insert single row
  insert into test(no,name) values(1,'xyz');

  2. insert multiple row
  insert into test(no,name) values(2,'aaa'),(3,'bbb'),(4,'ccc');

3. insert into tasks(task_id,title) values (101,'create table');
ERROR 1364 (HY000): Field 'status' doesn't have a default value

It gives an error because of not null field has not given values.

e.g insert into tasks(task_id,title,start_date,status,priority,description) values(102,'define project','2019-9-22',1,1,'discuss about new project to start');

successfully insert record. As all the mandatory fields like status, priority & title values are inserted.

- Display records/row from database
  Syntax : SELECT column name1, column name2... from tablename;

  Column name are the field names available in table
  Table name : Name of the table whose data needs to be display

  E.g 1 . select * from temp;
  It will show all the fields/attribute of table temp.

  Eg 2 select name from temp;
  It will show only the name attribute/field/column from table temp;

Exercise

Create the tables for the following:
Table Name: Client

Column Name	Data Type	Size	default	NoT NULL
Clientno	Varchar	6		YES
Name	varchar	20		YES
City	varchar	15		YES
Pincode	int	7		YES
Balance	int	10		NO

Table name : Product_master

Column Name	Data Type	Size	default	NoT NULL
Productno	Varchar	6		
Description	varchar	15		
Profitpercentage	Int	4		
Unitmeasure	Varchar	10		
Qtyonhand	Int	5		
Reorderlvl	Int	5		
Sellprice	Int	8		
Costprice	Int	8		

Table Name : Sales_Master

Cloumn Name	Data Type	Size	default	NoT NULL
Salesmanno	varchar	6		
Salesmanname	varchar	30		
Address1	varchar	20		
City	varchar	20		
Pincode	Int	7		
State	varchar	20		
sale_amt	Int	8		
Ytdsale	Int	8		

INSERT THE DATA INTO THEIR RESPECTIVE TABLES

Table Name Client

ClientNo	Name	City	Pincode	Balance
C00001	Korth sudarshan	Mumbai	400054	15000
C00002	Mamta	Madras	780001	0
C00003	Chhaya Bankar	Mumbai	400057	5000
C00004	Ashwini Joshi	Bangalore	560001	0
C00005	Hansel Colaco	Mumbai	400060	2000
C00006	Deepak Sharma	Mangalore	560050	0

Table Name : Product_master

ProductNo	Description	Profit percentage	Unitmesure	qtyonhand	Reorderlvl	SellPrice	CostPrice
P00001	T-Shirts	5	Piece	200	50	350	250
P0345	Shirts	6	Piece	150	50	500	350
P06734	Cotton jeans	5	Piece	100	20	600	450
P07865	Jeans	5	Piece	100	20	750	500
P07868	Trousers	2	Piece	150	50	850	550
P07885	Pull Overs	2.5	Piece	80	30	700	450
P07965	Denim shirts	4	Piece	100	4	350	250
P07975	Lycra Tops	5	Piece	70	30	300	175
P08865	Skirts	5	Piece	75	30	450	300

Table Name : Salesman_master

SalesmanNo	Name	Address2	City	Pincode	State	Sale_amt	YtdSales
S00001	Aman	A/14 Worli	Mumbai	400002	Maharashtra	3000	50
S00002	Omkar	C-65 Narima	Mumbai	400001	Maharashtra	3000	100
S00003	Ray	P-7 Bandra	Mumbai	400032	Maharashtra	3000	100
S00004	Ashishh	A/5 Juhu	Mumbai	400044	Maharashtra	3500	150