

Assignment 3

```
mysql> use shubham24;
```

Reading table information for completion of table and column names

You can turn off this feature to get a quicker startup with -A

Database changed

```
mysql> create table Student(Roll_No int primary key AUTO_INCREMENT,Name varchar(20), Marks int,
Branch varchar(30));
```

Query OK, 0 rows affected (0.31 sec)

```
mysql> insert into Student(Name,Marks,Branch)
```

```
values("Shubham",85,"Computer"),("Shiva",90,"Computer"),("Piyush",70,"IT"),("Mayur",50,"IT");
```

Query OK, 4 rows affected (0.05 sec)

Records: 4 Duplicates: 0 Warnings: 0

```
mysql> select * from Student;
```

Roll_No	Name	Marks	Branch
1	Shubham	85	Computer
2	Shiva	90	Computer
3	Piyush	70	IT
4	Mayur	50	IT

4 rows in set (0.00 sec)

```
mysql> update Student set Name="Darshan" where Name="Mayur";
```

Query OK, 1 row affected (0.06 sec)

Rows matched: 1 Changed: 1 Warnings: 0

```
mysql> select * from Student;
```

Roll_No	Name	Marks	Branch
1	Shubham	85	Computer
2	Shiva	90	Computer
3	Piyush	70	IT
4	Darshan	50	IT

4 rows in set (0.00 sec)

```
mysql> delete from Student where Marks=70;
```

Query OK, 1 row affected (0.05 sec)

```
mysql> select * from Student;
```

Roll_No	Name	Marks	Branch
1	Shubham	85	Computer
2	Shiva	90	Computer
4	Darshan	50	IT

3 rows in set (0.00 sec)

```
mysql> select avg(Marks) as Marks from Student;
```

```
+-----+  
| Marks |  
+-----+  
| 75.0000 |  
+-----+
```

```
1 row in set (0.00 sec)
```

```
mysql> select sum(Marks) as Sum from Student;
```

```
+-----+  
| Sum |  
+-----+  
| 225 |  
+-----+
```

```
1 row in set (0.00 sec)
```

```
mysql> select min(Marks) as Min from Student;
```

```
+-----+  
| Min |  
+-----+  
| 50 |  
+-----+
```

```
1 row in set (0.00 sec)
```

```
mysql> select max(Marks) as Max from Student;
```

```
+-----+  
| Max |  
+-----+  
| 90 |  
+-----+
```

```
1 row in set (0.00 sec)
```

```
mysql> select count(Branch) as Count from Student;
```

```
+-----+  
| Count |  
+-----+  
| 3 |  
+-----+
```

```
1 row in set (0.00 sec)
```

```
mysql> select count(Branch) as Count from Student group by(Branch);
```

```
+-----+  
| Count |  
+-----+  
| 2 |  
| 1 |  
+-----+
```

```
2 rows in set (0.00 sec)
```

```
mysql> select avg(Marks) as Avg,sum(Marks) as Sum,min(Marks) as Min,max(Marks) as Max,count(Branch) as Count from Student group by(Branch);
```

```
+-----+-----+-----+-----+-----+
| Avg   | Sum  | Min  | Max  | Count |
+-----+-----+-----+-----+
| 87.5000 | 175 | 85   | 90   | 2     |
| 50.0000 | 50   | 50   | 50   | 1     |
+-----+-----+-----+-----+
```

2 rows in set (0.00 sec)

```
mysql> select Branch, avg(Marks) as Avg,sum(Marks) as Sum,min(Marks) as Min,max(Marks) as Max,count(Branch) as Count from Student group by(Branch);
```

```
+-----+-----+-----+-----+-----+
| Branch | Avg   | Sum  | Min  | Max  | Count |
+-----+-----+-----+-----+-----+
| Computer | 87.5000 | 175 | 85   | 90   | 2     |
| IT      | 50.0000 | 50   | 50   | 50   | 1     |
+-----+-----+-----+-----+-----+
```

2 rows in set (0.00 sec)

```
mysql> select * from Student where Marks=(select max(Marks) from Student);
```

```
+-----+-----+-----+-----+
| Roll_No | Name  | Marks | Branch |
+-----+-----+-----+-----+
| 2       | Shiva | 90    | Computer |
+-----+-----+-----+-----+
```

1 row in set (0.00 sec)

```
mysql> select distinct(Branch) from Student;
```

```
+-----+
| Branch |
+-----+
| Computer |
| IT      |
+-----+
```

2 rows in set (0.00 sec)

```
mysql> create table Customers(CustomerID int primary key,Name varchar(15),Email varchar(30));
Query OK, 0 rows affected (0.41 sec)
```

```
mysql> insert into Customers(CustomerID,Name,Email) values(1,"Alice Smith","alice@example.com"),(2,"Bob Johnson","bob@example.com"),(3,"Carol White","carol@example.com");
```

Query OK, 3 rows affected (0.06 sec)

Records: 3 Duplicates: 0 Warnings: 0

```
mysql> select * from Customers;
```

```
+-----+-----+-----+
| CustomerID | Name      | Email          |
+-----+-----+-----+
| 1          | Alice Smith | alice@example.com |
| 2          | Bob Johnson | bob@example.com   |
| 3          | Carol White | carol@example.com |
+-----+-----+-----+
```

3 rows in set (0.00 sec)

```
mysql> create table Orders(OrderID int, CustomerID int primary key, ProductID int, OrderDate int);
Query OK, 0 rows affected (0.30 sec)
```

```
mysql> insert into Orders(OrderID, CustomerID, ProductID, OrderDate) values(1001,1,101,2024-01-15),
(1002,2,102,2024-02-20), (1003,3,103,2024-03-25), (1004,4,104,2024-04-30);
Query OK, 4 rows affected (0.04 sec)
Records: 4 Duplicates: 0 Warnings: 0
```

```
mysql> select * from Orders;
+-----+-----+-----+-----+
| OrderID | CustomerID | ProductID | OrderDate |
+-----+-----+-----+-----+
| 1001 | 1 | 101 | 2008 |
| 1002 | 2 | 102 | 2002 |
| 1003 | 3 | 103 | 1996 |
| 1004 | 4 | 104 | 1990 |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> alter table Orders drop column OrderDate;
Query OK, 0 rows affected (0.51 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> select * from Orders;
+-----+-----+-----+
| OrderID | CustomerID | ProductID |
+-----+-----+-----+
| 1001 | 1 | 101 |
| 1002 | 2 | 102 |
| 1003 | 3 | 103 |
| 1004 | 4 | 104 |
+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> alter table Orders ADD column OrderDate varchar(10);
Query OK, 0 rows affected (0.53 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> alter table Orders ADD column Order_Date date NOT NULL;
Query OK, 0 rows affected (0.46 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> drop table Orders;
Query OK, 0 rows affected (0.13 sec)
mysql> create table Orders(OrderID int primary key, CustomerID int, ProductID int, OrderDate date NOT
NULL, Quantity int NOT NULL, FOREIGN KEY(CustomerID) REFERENCES Customers(CustomerID));
Query OK, 0 rows affected (0.44 sec)
```

```
mysql> insert into Orders(OrderID, CustomerID, ProductID, OrderDate, Quantity) values(1001,1,101,'2024-01-15',1);
Query OK, 1 row affected (0.05 sec)
```

```
mysql> insert into Orders(OrderID, CustomerID, ProductID, OrderDate, Quantity) values(1002, 2, 102, '2024-02-20', 3);
```

Query OK, 1 row affected (0.06 sec)

```
mysql> insert into Orders(OrderID, CustomerID, ProductID, OrderDate, Quantity) values(1003, 3, 103, '2024-03-25', 2);
```

Query OK, 1 row affected (0.04 sec)

JOINS :

```
mysql> select * from Orders;
```

OrderID	CustomerID	ProductID	OrderDate	Quantity
1001	1	101	2024-01-15	1
1002	2	102	2024-02-20	3
1003	3	103	2024-03-25	2

3 rows in set (0.00 sec)

```
mysql> select * from Customers;
```

CustomerID	Name	Email
1	Alice Smith	alice@example.com
2	Bob Johnson	bob@example.com
3	Carol White	carol@example.com

3 rows in set (0.00 sec)

```
mysql> insert into Customers(CustomerID, Name, Email) values(4, "Virat Kohli", "virat@example.com");
```

Query OK, 1 row affected (0.05 sec)

```
mysql> select * from Customers;
```

CustomerID	Name	Email
1	Alice Smith	alice@example.com
2	Bob Johnson	bob@example.com
3	Carol White	carol@example.com
4	Virat Kohli	virat@example.com

4 rows in set (0.00 sec)

```
mysql> insert into Orders(OrderID, CustomerID, ProductID, OrderDate, Quantity) values(1004, 4, 104, '2024-04-30', 5);
```

Query OK, 1 row affected (0.05 sec)

```
mysql> select * from Orders;
```

OrderID	CustomerID	ProductID	OrderDate	Quantity
1001	1	101	2024-01-15	1
1002	2	102	2024-02-20	3
1003	1	103	2024-03-25	2
1004	4	104	2024-04-30	5

```
4 rows in set (0.00 sec)
```

1. INNER JOIN

```
mysql> select Customers.CustomerID,Customers.Name,Orders.OrderID,Orders.OrderDate from  
Customers INNER JOIN Orders ON Customers.CustomerID=Orders.CustomerID;
```

CustomerID	Name	OrderID	OrderDate
1	Alice Smith	1001	2024-01-15
1	Alice Smith	1003	2024-03-25
2	Bob Johnson	1002	2024-02-20
4	Virat Kohli	1004	2024-04-30

```
4 rows in set (0.00 sec)
```

2. LEFT JOIN

```
mysql> SELECT Customers.CustomerID,Customers.Name,Orders.OrderID,Orders.OrderDate FROM  
Customers LEFT JOIN Orders ON Customers.CustomerID=Orders.CustomerID;
```

CustomerID	Name	OrderID	OrderDate
1	Alice Smith	1001	2024-01-15
1	Alice Smith	1003	2024-03-25
2	Bob Johnson	1002	2024-02-20
3	Carol White	NULL	NULL
4	Virat Kohli	1004	2024-04-30

```
5 rows in set (0.00 sec)
```

3. RIGHT JOIN

```
mysql> SELECT Customers.CustomerID,Customers.Name,Orders.OrderID,Orders.OrderDate FROM  
Customers RIGHT JOIN Orders ON Customers.CustomerID=Orders.CustomerID;
```

CustomerID	Name	OrderID	OrderDate
1	Alice Smith	1001	2024-01-15
1	Alice Smith	1003	2024-03-25
2	Bob Johnson	1002	2024-02-20
NULL	NULL	1004	2024-04-30

```
4 rows in set (0.00 sec)
```

4. FULL JOIN

```
mysql> SELECT Customers.CustomerID,Customers.Name,Orders.OrderID,Orders.OrderDate FROM
Customers LEFT JOIN Orders ON Customers.CustomerID=Orders.CustomerID UNION SELECT
Customers.CustomerID,Customers.Name,Orders.OrderID,Orders.OrderDate FROM Orders RIGHT JOIN
Customers ON Customers.CustomerID=Orders.CustomerID;
```

CustomerID	Name	OrderID	OrderDate
1	Alice Smith	1001	2024-01-15
1	Alice Smith	1003	2024-03-25
2	Bob Johnson	1002	2024-02-20
3	Carol White	NULL	NULL
4	Virat Kohli	1004	2024-04-30

5 rows in set (0.00 sec)

5. CROSS JOIN

```
mysql> SELECT Customers.CustomerID,Customers.Name,Orders.OrderID,Orders.OrderDate FROM
Customers CROSS JOIN Orders;
```

CustomerID	Name	OrderID	OrderDate
1	Alice Smith	1001	2024-01-15
1	Alice Smith	1002	2024-02-20
1	Alice Smith	1003	2024-03-25
1	Alice Smith	1004	2024-04-30
2	Bob Johnson	1001	2024-01-15
2	Bob Johnson	1002	2024-02-20
2	Bob Johnson	1003	2024-03-25
2	Bob Johnson	1004	2024-04-30
3	Carol White	1001	2024-01-15
3	Carol White	1002	2024-02-20
3	Carol White	1003	2024-03-25
3	Carol White	1004	2024-04-30
4	Virat Kohli	1001	2024-01-15
4	Virat Kohli	1002	2024-02-20
4	Virat Kohli	1003	2024-03-25
4	Virat Kohli	1004	2024-04-30