Assignment

1. Case Study: Customer Data Analysis

You are a data analyst at a retail company, and you've been tasked with analysing the customer data to gain insights that can improve marketing strategies and customer satisfaction. Dataset: Customer Data set(excel file**)**

Dataset Description:

customerid: Unique identifier for each
customer. name: First name of the
customer. surname: Last name of the
customer. age: Age of the customer.
gender: Gender of the customer.
job: Occupation of the customer.
balance: Account balance of the customer.
region: Region where the customer resides.

Questions:

1. List all customers sorted by their age in ascending order.

Ans- SELECT * FROM customerdata ORDER BY Age asc;

2. Display the top 10 customers with the highest balances.

Ans-SELECT * FROM customerdata ORDER BY balance desc
limit 10;

3.List the average balance of customers in each region,only for regions where the average balance is above 60000.

Ans-SELECT region,avg(balance)FROM customerdata
group by region having avg(balance)>60000;

4.Display the top 3 jobs with the highest total balance.

Ans-SELECT job,balance from customerdata
order by balance desc
limit 3;

5.Display the top 5 regions with the highest total balance.

Ans-SELECT region,balance from customerdata
order by balance desc
limit 5;

6. Find the total balance held by customers aged between 25 and 35 (inclusive).

Ans-SELECT sum(balance) FROM customerdata
where age BETWEEN 25 and 35;

7. List all male customers whose balance is greater than 50000.

Ans-SELECT gender,balance from customerdata
WHERE balance > 50000 AND gender='male';

2. Case Study: TechMart Data Creation

You are a data analyst working for a fictional company called "TechMart." TechMart is an online marketplace that sells various tech products. As part of your role, you are tasked with managing the company's MySQL database, which stores information about products, customers, and orders.

MySQL Database Schema:
TechMart's database consists of the following tables:

Products

product_id (INT, Primary Key) : Unique identifier for each product.
product_name (VARCHAR) : Name of the product.
price (DECIMAL) : Price of the product.
category (VARCHAR) : Category of the product.

Customers

customer_id (INT, Primary Key) : Unique identifier for each customer.
: Name of the customer
email (VARCHAR) : Email address of the customer.
phone (VARCHAR) : Phone number of the customer. Orders order_id (INT, Primary Key)

Orders

order_id (INT, Primary Key) : Unique identifier for each order.
customer_id (INT, Foreign Key) : Unique identifier for each order.
product_id (INT, Foreign Key) : Identifier of the product ordered.
quantity (INT) : Quantity of the product ordered.
order_date (DATE) : Date when the order was placed.

1.Create a SQL script to create the above tables in the TechMart database.

Ans-
```
create table Products
(product_id INT Primary key,
product_name VARCHAR(10),
price DECIMAL(5,2),
category VARCHAR(25));

create table Customers
(customer_id INT Primary Key,
customer_name VARCHAR(10),
email VARCHAR(10),
phone VARCHAR(10));

CREATE TABLE orders (
    order_id INT PRIMARY KEY,
    customer_id INT,
    product_id INT,
    quantity INT,
    order_date DATE,
    FOREIGN KEY (customer_id) REFERENCES customers(customer_id),
    FOREIGN KEY (product_id) REFERENCES products(product_id)
);
```

2. Insert 5 records into the Products table with sample data.

```
Insert into products
(product_id,product_name,price,category)
values
(10001,'Apple',100,'Fruits'),
(10002,'Mango',100,'Fruits'),
(10003,'Brinjal',100,'veg'),
(10004,'Carrot',100,'Fruits'),
(10005,'Potato',100,'Fruits');
```

3. Insert 3 records into the Customers table with sample data.

```
Insert into products
(product_id,product_name,price,category)
values
(10001,'Apple',100,'Fruits'),
(10002,'Mango',100,'Fruits'),
(10003,'Brinjal',100,'veg'),
(10004,'Carrot',100,'Fruits'),
(10005,'Patato',100,'Fruits');
```

4. Insert 10 records into the Orders table with sample data, ensuring that each order is associated with a random customer and product.

```
Insert into customers
(customer_id,customer_name,email,phone)
Values
(101,'shiva','rana1998',8340643101)
(102,'sudhanshu','sudhan125',9955712134),
(103,'mangal','mangal205',8546879455),
(104,'manya','manya6955',495548545),
(105,'golu','golu88848',546856656),
(106,'anil','anil94548',652945845)
(107,'sunil','sunil568',2256458595),
(108,'raju','raju8759',995675465)
(109,'vikash','vikash77',88626594)
(110,'sanjay','sanju8569',88556958)
;
```