

ASSIGNMENT:1

TechShop

Task:1. Database Design:

1. Create the database named "TechShop"
2. Define the schema for the Customers, Products, Orders, OrderDetails and Inventory tables based on the provided schema.
3. Create appropriate Primary Key and Foreign Key constraints for referential integrity.



The screenshot displays the SQL Server Enterprise Manager interface on the left, showing the 'TechShop' database under the 'sys' server. The right pane shows the T-SQL script used to create the database and its tables with constraints.

```
1 • create database if not exists TechShop;
2 • use Techshop;
3 • create table if not exists Customers (
4   C_id int PRIMARY KEY,
5   F_name varchar(50),
6   L_name varchar(50),
7   email varchar(50),
8   phone_no varchar(12),
9   address varchar(200)
10 );
11 • create table if not exists Products(
12   P_id int PRIMARY KEY,
13   P_name varchar(100),
14   Descrip varchar(500),
15   Price int
16 );
17 • create table if not exists Orders(
18   O_id int PRIMARY KEY,
19   C_id int ,FOREIGN KEY(C_id) references Customers(C_id),
20   O_date Date,
21   Total int
22 );
23 • create table if not exists OrderDetails(
24   order_d_id int PRIMARY KEY,
25   O_id int, FOREIGN KEY(O_id) references Orders(O_id),
26   P_id int, FOREIGN KEY(P_id) references Products(P_id),
27   quantity int
28 );
29
30 • create table if not exists Inventory(
31   I_id int PRIMARY KEY,
32   P_id int, FOREIGN KEY(P_id) references Products(P_id),
33   quantity_stock int,
34   last_stock date
35 );
```

4. Insert at least 10 sample records into each of the following tables.
 - a. Customers
 - b. Products
 - c. Orders
 - d. OrderDetails

db1

sys

Tables

Views

Stored...

Functio...

TechShop

Tables

Views

Stored...

Functio...

```
insert into Customers values(01,"Ram","Saxena","ram.saxena@gmail.com","9876543219","Avas vikas colony"),
(02,"Ajay","Chaudhary","ajay.chaudhary@gmail.com","9945653872","12/A Laxmanpuri"),
(03,"Samarth","Gupta","samarth.gupta@gmail.com","8897675434","Lakhperabagh"),
(04,"Aditya","Mohan","aditya.mohan@gmail.com","7867654563","Sriram colony"),
(05,"Tripti","Verma","tripti.verma@gmail.com","9823452519","Srawasti nagar"),
(06,"Vishnu","Singh","vishnu.singh@gmail.com","9123445664","Lakhperabagh"),
(07,"Aniket","Chaubey","aniket.chaubey@gmail.com","8837472973","Indira nagar"),
(08,"Akansha","Singh","akansha.singh@gmail.com","6387543453","Alambagh"),
(09,"Khushi","Bhatia","khushi.bhatia@gmail.com","6347682363","Munshipulia"),
(10,"Vijay","Verma","vijay.verma@gmail.com","7722346433","nawabganj");

select * from Customers;
```

100%

1:46

Result Grid

Filter Rows: Search

Edit: Export/Import:

	C_id	F_name	L_name	email	phone_no	address
1	1	Ram	Saxena	ram.saxena@gmail.com	9876543219	Avas vikas colony
2	2	Ajay	Chaudhary	ajay.chaudhary@gmail.com	9945653872	12/A Laxmanpuri
3	3	Samarth	Gupta	samarth.gupta@gmail.com	8897675434	Lakhperabagh
4	4	Aditya	Mohan	aditya.mohan@gmail.com	7867654563	Sriram colony
5	5	Tripti	Verma	tripti.verma@gmail.com	9823452519	Srawasti nagar
6	6	Vishnu	Singh	vishnu.singh@gmail.com	9123445664	Lakhperabagh
7	7	Aniket	Chaubey	aniket.chaubey@gmail.com	8837472973	Indira nagar
8	8	Akansha	Singh	akansha.singh@gmail.com	6387543453	Alambagh
9	9	Khushi	Bhatia	khushi.bhatia@gmail.com	6347682363	Munshipulia
10	10	Vijay	Verma	vijay.verma@gmail.com	7722346433	nawabganj

Customers 19

Apply

db1

sys

Tables

Views

Stored...

Functio...

TechShop

Tables

Views

Stored...

Functio...

```
48 • insert into Products values(1,"nothing earphone","bluetooth earphone",5000),
49 (2,"oneplus earbuds pro","bluetooth earphone with enc",8000),
50 (3,"Hp pavilion","laptop with i5 processor",35000),
51 (4,"Dell laptop","laptop with i7 processor",40000),
52 (5,"Apple iphone 15","A15 bionic chip latest phone",75000),
53 (6,"Noise digital watch ","bluetooth digital watch",6000),
54 (7,"Philips Trimmer","new age trimmer with precision trim",2000),
55 (8,"Oneplus 10R","android phone",25000),
56 (9,"Lenovo laptop","laptop with i5 processor and 256gb ssd",50000),
57 (10,"Realme 5 pro","6 gb android phone",18000);
58 • select * from Products;
```

100%

24:58

Result Grid

Filter Rows: Search

Edit: Export/Import:

	P_id	P_name	Descrip	Price
1	1	nothing earphone	bluetooth earphone	5000
2	2	oneplus earbuds pro	bluetooth earphone with enc	8000
3	3	Hp pavilion	laptop with i5 processor	35000
4	4	Dell laptop	laptop with i7 processor	40000
5	5	Apple iphone 15	A15 bionic chip latest phone	75000
6	6	Noise digital watch	bluetooth digital watch	6000
7	7	Philips Trimmer	new age trimmer with precision trim	2000
8	8	Oneplus 10R	android phone	25000
9	9	Lenovo laptop	laptop with i5 processor and 256gb ssd	50000
10	10	Realme 5 pro	6 gb android phone	18000

Products 20

Apply

db1

sys

Tables

Views

Stored...

Functio...

TechShop

Tables

Views

Stored...

Functio...

```
60 • insert into Orders values(1,1,'2023-08-23',48000),
61 (2,2,'2023-06-12',52000),
62 (3,3,'2023-02-12',81000),
63 (4,4,'2022-04-10',75000),
64 (5,5,'2022-04-22',18000),
65 (6,6,'2021-02-23',13000),
66 (7,7,'2023-03-18',25000),
67 (8,8,'2021-11-24',85000),
68 (9,9,'2022-05-11',16000),
69 (10,10,'2023-07-21',21000);
70 • select * from Orders;
```

100%

22:70

Result Grid

Filter Rows: Search

Edit: Export/Import:

	O_id	C_id	O_date	Total
1	1	1	2023-08-23	48000
2	2	2	2023-06-12	52000
3	3	3	2023-02-12	81000
4	4	4	2022-04-10	75000
5	5	5	2022-04-22	18000
6	6	6	2021-02-23	13000
7	7	7	2023-03-18	25000
8	8	8	2021-11-24	85000
9	9	9	2022-05-11	16000
10	10	10	2023-07-21	21000

Orders 23

Apply

db1

sys

Tables

Views

Stored...

Funcio...

TechShop

Tables

Views

Stored...

Funcio...

```

72 • insert into OrderDetails values(1,1,2,1),
73   (2,3,3,1),
74   (3,4,1,1),
75   (4,1,5,5),
76   (5,2,6,2),
77   (6,7,5,3),
78   (7,9,8,2),
79   (8,10,1,1),
80   (9,5,7,3),
81   (10,10,2,1);
82 • select * from OrderDetails;

```

Result Grid

order_d_id	O_id	P_id	quantity
1	1	2	1
2	3	3	1
3	4	1	1
4	1	5	5
5	2	6	2
6	7	5	3
7	9	8	2
8	10	1	1
9	5	7	3
10	10	2	1
NULL	NULL	NULL	NULL

OrderDetails 24

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sys

Tables

Views

Stored...

Funcio...

TechShop

Tables

Views

Stored...

Funcio...

```

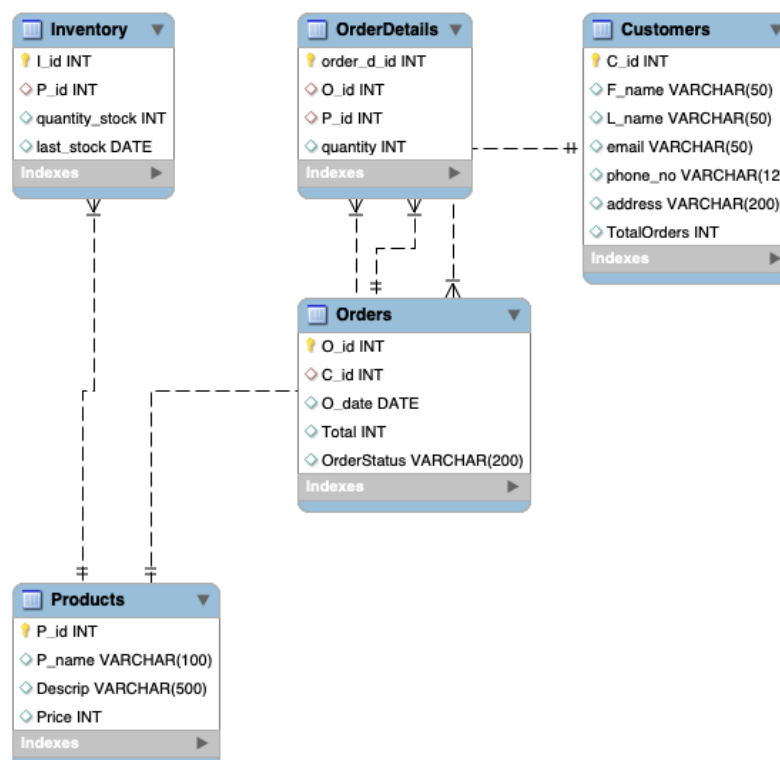
85 • insert into Inventory values(1,1,15,'2023-08-18'),
86   (2,2,10,'2023-03-22'),
87   (3,3,25,'2022-02-11'),
88   (4,4,15,'2023-11-05'),
89   (5,5,30,'2023-05-20'),
90   (6,6,28,'2023-04-10'),
91   (7,7,40,'2022-08-15'),
92   (8,8,10,'2021-01-01'),
93   (9,9,22,'2023-05-07'),
94   (10,10,12,'2021-11-10');
95 • select * from Inventory;

```

Result Grid

I_id	P_id	quantity_stock	last_stock
1	1	15	2023-08-18
2	2	10	2023-03-22
3	3	25	2022-02-11
4	4	15	2023-11-05
5	5	30	2023-05-20
6	6	28	2023-04-10
7	7	40	2022-08-15
8	8	10	2021-01-01
9	9	22	2023-05-07
10	10	12	2021-11-10
NULL	NULL	NULL	NULL

5. Create an ERD (Entity Relationship Diagram) for the database.



Task 2: SELECT, WHERE, BETWEEN, AND, LIKE:

1. Write an SQL query to retrieve the names and emails of all customers.

The screenshot shows a database management tool interface. The SQL editor at the top contains the query: `select F_name, L_name, email from Customers;`. Below the editor, the 'Result Grid' displays the results of the query. The grid has three columns: F_name, L_name, and email. The results show 10 rows of customer data. The status bar at the bottom indicates 'Query Completed'.

F_name	L_name	email
Ram	Saxena	ram.saxena@gmail.com
Ajay	Chaudhary	ajay.chaudhary@gmail.com
Samarth	Gupta	samarth.gupta@gmail.com
Aditya	Mohan	aditya.mohan@gmail.com
Tripti	Verma	tripti.verma@gmail.com
Vishnu	Singh	vishnu.singh@gmail.com
Aniket	Chaubey	aniket.chaubey@gmail.com
Akansha	Singh	akansha.singh@gmail.com
Khushi	Bhatia	khushi.bhatia@gmail.com
Vijay	Verma	vijay.verma@gmail.com

2. Write an SQL query to list all orders with their order dates and corresponding customer names.

The screenshot shows a database management tool interface. The SQL editor at the top contains the query: `select Orders.O_id, Orders.O_Date, Customers.F_name, Customers.L_name from Orders join Customers on Orders.C_id=Customers.C_id;`. Below the editor, the 'Result Grid' displays the results of the query. The grid has five columns: O_id, O_Date, F_name, and L_name. The results show 10 rows of order data. The status bar at the bottom indicates 'Result 27'.

O_id	O_Date	F_name	L_name
1	2023-08-23	Ram	Saxena
2	2023-06-12	Ajay	Chaudhary
3	2023-02-12	Samarth	Gupta
4	2022-04-10	Aditya	Mohan
5	2022-04-22	Tripti	Verma
6	2021-02-23	Vishnu	Singh
7	2023-03-18	Aniket	Chaubey
8	2021-11-24	Akansha	Singh
9	2022-05-11	Khushi	Bhatia
10	2023-07-21	Vijay	Verma

3. Write an SQL query to insert a new customer record into the "Customers" table. Include customer information such as name, email and address.

TechShop

- Tables
- Views
- Stored...
- Funcio...

Object Info Session
No object selected

```

102 • insert into Customers(C_id,F_name,L_name,email,phone_no,address)
103 VALUES(11,'Ashish','Kumar','ashish.kumar@gmail.com','9863423874','Charbagh');
104 • select * from Customers;
105
106

```

100% 1:105

Result Grid Filter Rows: Search Edit: Export/Import:

C_id	F_name	L_name	email	phone_no	address
1	Ajay	Chaudhary	ajay.chaudhary@gmail.com	9945653872	12/A Laxmanpuri
2	Ajay	Chaudhary	ajay.chaudhary@gmail.com	9945653872	12/A Laxmanpuri
3	Samarth	Gupta	samarth.gupta@gmail.com	8897675434	Lakhperabagh
4	Aditya	Mohan	aditya.mohan@gmail.com	7867654563	Sriram colony
5	Tripti	Verma	tripti.verma@gmail.com	9823452519	Srawasti nagar
6	Vishnu	Singh	vishnu.singh@gmail.com	9123445664	Lakhperabagh
7	Aniket	Chaubey	aniket.chaubey@gmail.com	8837472973	Indira nagar
8	Akansha	Singh	akansha.singh@gmail.com	6387543453	Alambagh
9	Khushi	Bhatia	khushi.bhatia@gmail.com	6347682363	Munshipulia
10	Vijay	Verma	vijay.verma@gmail.com	7722346433	nawabganj
11	Ashish	Kumar	ashish.kumar@gmail.com	9863423874	Charbagh
NULL	NULL	NULL	NULL	NULL	NULL

Customers 29 Apply

4. Write an SQL query to update the prices of all electronics gadgets in the “Products” table by increasing them by 10%.

TechShop

- Tables
- Views
- Stored...
- Funcio...

Object Info Session
No object selected

```

105 • UPDATE Products
106 SET Price = Price * 1.1;
107 • select * from Products;
108
109

```

100% 1:104

Result Grid Filter Rows: Search Edit: Export/Import:

P_id	P_name	Descrip	Price
1	nothing earphone	bluetooth earphone	5500
2	oneplus earbuds pro	bluetooth earphone with enc	8800
3	Hp pavilion	laptop with i5 processor	38500
4	Dell laptop	laptop with i7 processor	44000
5	Apple iphone 15	A15 bionic chip latest phone	82500
6	Noise digital watch	bluetooth digital watch	6600
7	Philips Trimmer	new age trimmer with precision trim	2200
8	Oneplus 10R	android phone	27500
9	Lenovo laptop	laptop with i5 processor and 256gb ssd	55000
10	Realme 5 pro	6 gb android phone	19800
NULL	NULL	NULL	NULL

Products 30 Apply

5. Write an SQL query to delete a specific order and its associated order details from the “Orders” and “OrderDetails” table. Allow users to input the order ID as a parameter.

TechShop

- Tables
- Views
- Stored...
- Funcio...

Object Info Session
No object selected

```

109 • set @OrderIDToDelete =5;
110
111 • delete from OrderDetails
112 where O_id=@OrderIDToDelete;
113
114 • delete from Orders
115 where O_id=@OrderIDToDelete;
116
117

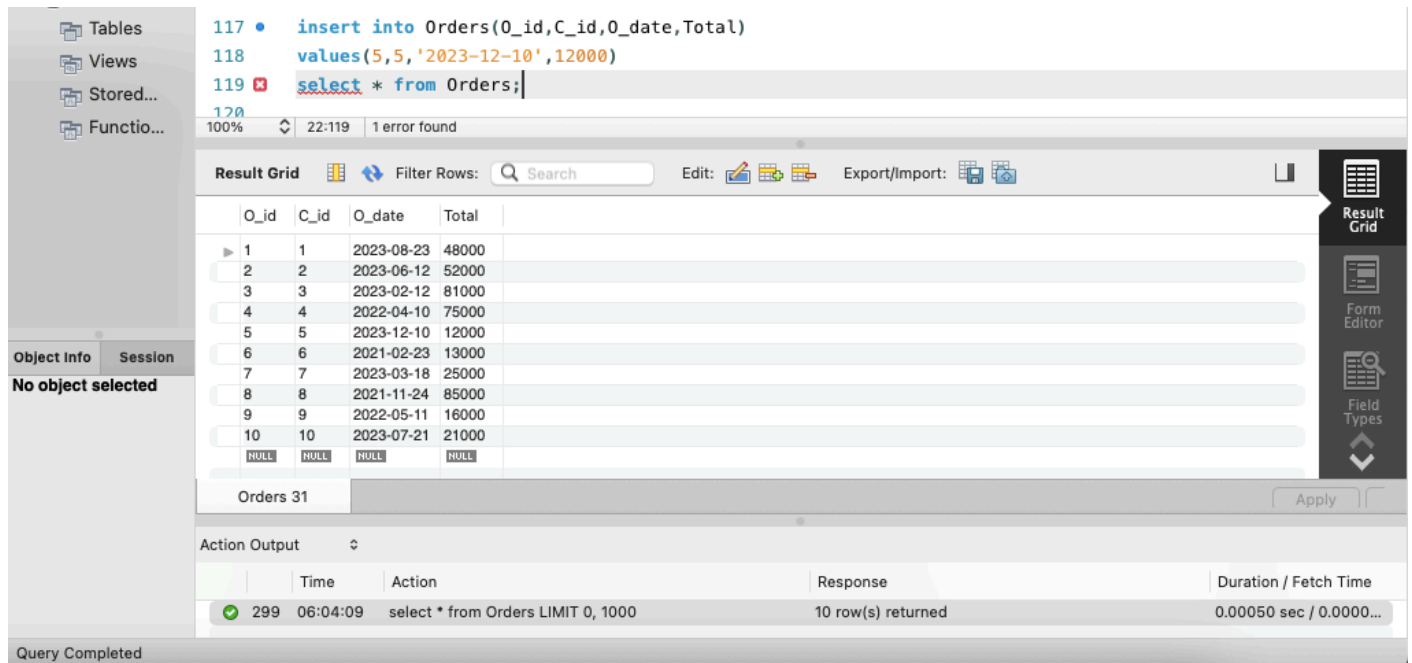
```

100% 1:117

Action Output

	Time	Action	Response	Duration / Fetch Time
297	06:00:10	delete from Orders where O_id=@OrderIDToDelete	0 row(s) affected	0.00083 sec

6. Write an SQL query to insert a new order into the “Orders” table. Include the customers ID, order date, and any other necessary information.



```

117 • insert into Orders(O_id,C_id,O_date,Total)
118 values(5,5,'2023-12-10',12000)
119 • select * from Orders;
120
100% 22:119 1 error found

```

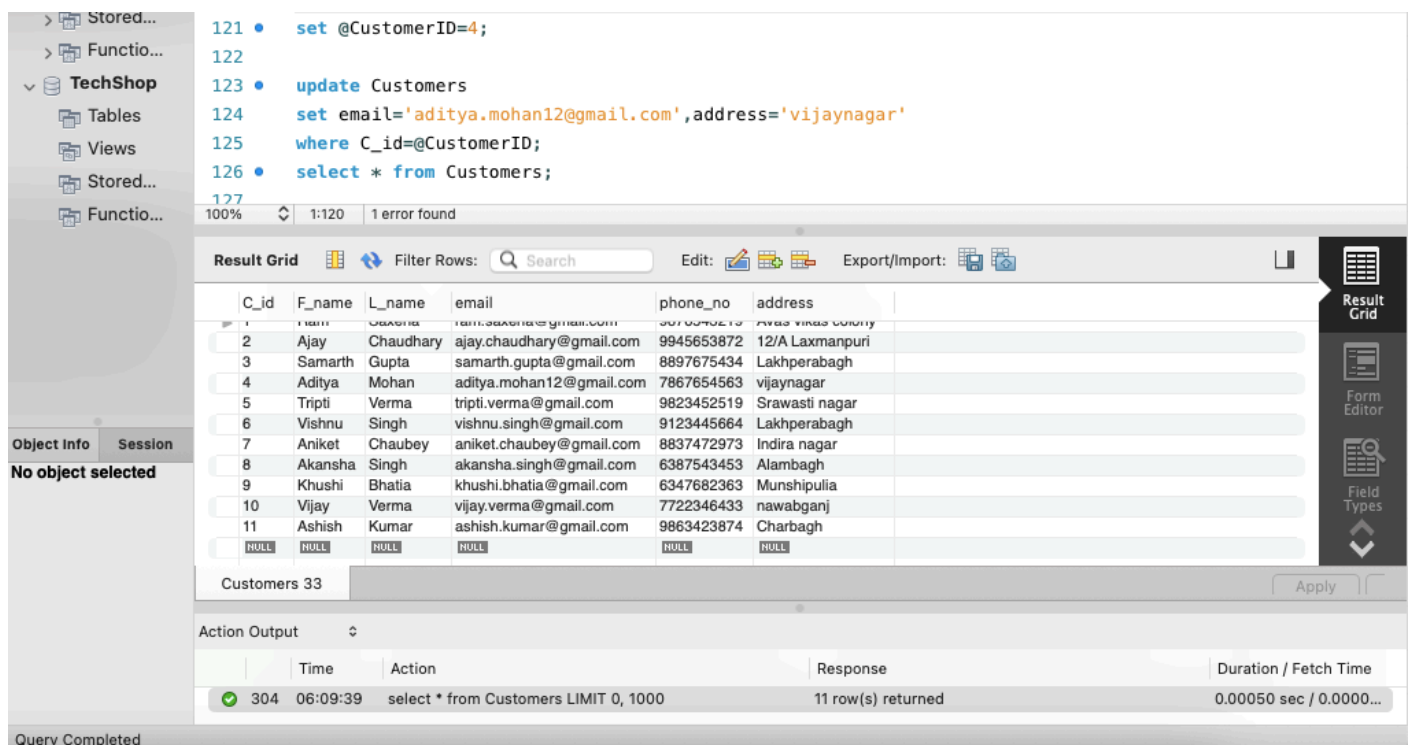
O_id	C_id	O_date	Total
1	1	2023-08-23	48000
2	2	2023-06-12	52000
3	3	2023-02-12	81000
4	4	2022-04-10	75000
5	5	2023-12-10	12000
6	6	2021-02-23	13000
7	7	2023-03-18	25000
8	8	2021-11-24	85000
9	9	2022-05-11	16000
10	10	2023-07-21	21000
NULL	NULL	NULL	NULL

Orders 31

Time	Action	Response	Duration / Fetch Time
06:04:09	select * from Orders LIMIT 0, 1000	10 row(s) returned	0.00050 sec / 0.0000...

Query Completed

7. Write an SQL query to update the contact information (eg, email and address) of a specific customer in the “Customers” table. Allow users to input the customer ID and new contact information.



```

121 • set @CustomerID=4;
122
123 • update Customers
124 set email='aditya.mohan12@gmail.com', address='vijaynagar'
125 where C_id=@CustomerID;
126 • select * from Customers;
127
100% 1:120 1 error found

```

C_id	F_name	L_name	email	phone_no	address
1	Ajay	Chaudhary	ajay.chaudhary@gmail.com	9945653872	12/A Laxmanpuri
2	Samarth	Gupta	samarth.gupta@gmail.com	8897675434	Lakhperabagh
3	Aditya	Mohan	aditya.mohan12@gmail.com	7867654563	vijaynagar
4	Tripti	Verma	tripti.verma@gmail.com	9823452519	Srawasti nagar
5	Vishnu	Singh	vishnu.singh@gmail.com	9123445664	Lakhperabagh
6	Aniket	Chaubey	aniket.chaubey@gmail.com	8837472973	Indira nagar
7	Akansha	Singh	akansha.singh@gmail.com	6387543453	Alambagh
8	Khushi	Bhatia	khushi.bhatia@gmail.com	6347682363	Munshipulia
9	Vijay	Verma	vijay.verma@gmail.com	7722346433	nawabganj
10	Ashish	Kumar	ashish.kumar@gmail.com	9863423874	Charbagh
11	NULL	NULL	NULL	NULL	NULL

Customers 33

Time	Action	Response	Duration / Fetch Time
06:09:39	select * from Customers LIMIT 0, 1000	11 row(s) returned	0.00050 sec / 0.0000...

Query Completed

8. Write an SQL query to recalculate and update the total cost of each order in the “Orders” table based on the prices and quantities in the “OrderDetails” table.

128 • **update** Orders
 129 • **set** Total=(
 130 • **select** sum(Products.Price * OrderDetails.quantity)
 131 • **from** OrderDetails
 132 • **join** Products **on** OrderDetails.P_id=Products.P_id
 133 • **where** OrderDetails.O_id=Orders.O_id
 134 •);
 135 • **select** * **from** Orders;
 136

100% 1:136 1 error found

Result Grid Filter Rows: Search Edit: Export/Import:

O_id	C_id	O_date	Total
1	1	2023-08-23	421300
2	2	2023-06-12	13200
3	3	2023-02-12	38500
4	4	2022-04-10	5500
5	5	2023-12-10	NULL
6	6	2021-02-23	NULL
7	7	2023-03-18	247500
8	8	2021-11-24	NULL
9	9	2022-05-11	55000
10	10	2023-07-21	14300
NULL	NULL	NULL	NULL

Orders 34 Apply

Action Output

Time	Action	Response	Duration / Fetch Time
306 06:15:44	select * from Orders LIMIT 0, 1000	10 row(s) returned	0.00047 sec / 0.0000...

9. Write an SQL query to delete all orders and their associated order details for a specific customer from the "Orders" and "OrderDetails" tables. Allow users to input the customer ID as a parameter.

137 • **set** @customerID=5;
 138 • **delete from** OrderDetails **where** O_id in(
 139 • **select** O_id **from** Orders **where** C_id=@customerID);
 140 •
 141 • **delete from** Orders **where** C_id=@customerID;
 142 • **select** * **from** Orders;

100% 22:142 1 error found

Result Grid Filter Rows: Search Edit: Export/Import:

O_id	C_id	O_date	Total
1	1	2023-08-23	421300
2	2	2023-06-12	13200
3	3	2023-02-12	38500
4	4	2022-04-10	5500
6	6	2021-02-23	NULL
7	7	2023-03-18	247500
8	8	2021-11-24	NULL
9	9	2022-05-11	55000
10	10	2023-07-21	14300
NULL	NULL	NULL	NULL

Orders 35 Apply

10. Write an SQL query to insert a new electronic gadget product into the "Products" table, including product name, category, price, and any other relevant details.

144 • `insert into Products(P_id,P_name,Descrip,Price)`
 145 `VALUES(11,'BOLTT Smartwatch','bluetooth calling watch',2500);`
 146 • `select * from Products;`
 147

100% 1:147 1 error found

Result Grid Filter Rows: Search Edit: Export/Import:

P_id	P_name	Descrip	Price
1	nothing earphone	bluetooth earphone	5500
2	oneplus earbuds pro	bluetooth earphone with enc	8800
3	Hp pavilion	laptop with i5 processor	38500
4	Dell laptop	laptop with i7 processor	44000
5	Apple iphone 15	A15 bionic chip latest phone	82500
6	Noise digital watch	bluetooth digital watch	6600
7	Philips Trimmer	new age trimmer with precision trim	2200
8	Oneplus 10R	android phone	27500
9	Lenovo laptop	laptop with i5 processor and 256gb ssd	55000
10	Realme 5 pro	6 gb android phone	19800
11	BOLTT Smartwatch	bluetooth calling watch	2500

Products 36 Apply

11. Write an SQL query to update the status of a specific order in the "Orders" table (e.g., from "Pending" to "Shipped"). Allow users to input the order ID and the new status.

148 • `alter table Orders`
 149 `add column OrderStatus varchar(200);`
 150 • `select * from Orders;`

100% 22:150 1 error found

Result Grid Filter Rows: Search Edit: Export/Import:

O_id	C_id	O_date	Total	OrderStatus
1	1	2023-08-23	421300	NULL
2	2	2023-06-12	13200	NULL
3	3	2023-02-12	38500	NULL
4	4	2022-04-10	5500	NULL
6	6	2021-02-23	NULL	NULL
7	7	2023-03-18	247500	NULL
8	8	2021-11-24	NULL	NULL
9	9	2022-05-11	55000	NULL
10	10	2023-07-21	14300	NULL
NULL	NULL	NULL	NULL	NULL

Orders 37 Apply

152 • `update Orders set OrderStatus="Shipped" where O_id=6;`
 153 • `select * from Orders;`
 154

100% 1:151 1 error found

Result Grid Filter Rows: Search Edit: Export/Import:

O_id	C_id	O_date	Total	OrderStatus
1	1	2023-08-23	421300	NULL
2	2	2023-06-12	13200	NULL
3	3	2023-02-12	38500	NULL
4	4	2022-04-10	5500	NULL
6	6	2021-02-23	NULL	Shipped
7	7	2023-03-18	247500	NULL
8	8	2021-11-24	NULL	NULL
9	9	2022-05-11	55000	NULL
10	10	2023-07-21	14300	NULL

12. Write an SQL query to calculate and update the number of orders placed by each customer in the "Customers" table based on the data in the "Orders" table.


```

158 • UPDATE Customers
159 • SET TotalOrders = (
160 •     SELECT COUNT(*)
161 •     FROM Orders
162 •     WHERE Orders.C_ID = Customers.C_ID
163 • );
164 • select * from Customers;
165
166

```

100% 1:165 1 error found

C_id	F_name	L_name	email	phone_no	address	TotalOrders
1	Ram	Saxena	ram.saxena@gmail.com	9876543219	Avas vikas colony	1
2	Ajay	Chaudhary	ajay.chaudhary@gmail.com	9945653872	12/A Laxmanpuri	1
3	Samarth	Gupta	samarth.gupta@gmail.com	8897675434	Lakhperabagh	1
4	Aditya	Mohan	aditya.mohan12@gmail.com	7867654563	vijaynagar	1
5	Tripti	Verma	tripti.verma@gmail.com	9823452519	Srawasti nagar	0
6	Vishnu	Singh	vishnu.singh@gmail.com	9123445664	Lakhperabagh	1
7	Aniket	Chaubey	aniket.chaubey@gmail.com	8837472973	Indira nagar	1
8	Akansha	Singh	akansha.singh@gmail.com	6387543453	Alambagh	1
9	Khushi	Bhatia	khushi.bhatia@gmail.com	6347682363	Munshipulia	1
10	Vijay	Verma	vijay.verma@gmail.com	7722346433	nawabganj	1
11	Ashish	Kumar	ashish.kumar@gmail.com	9863423874	Charbagh	0

Task 3. Aggregate functions, Having, Order By, GroupBy and Joins:

1. Write an SQL query to retrieve a list of all orders along with customer information (e.g., customer name) for each order.

```

166 • SELECT
167 •     Orders.O_ID,
168 •     Orders.O_Date,
169 •     Customers.C_ID,
170 •     Customers.F_Name
171 • FROM
172 •     Orders
173 • JOIN
174 •     Customers ON Orders.C_ID = Customers.C_ID;
175

```

100% 47:174 1 error found

O_ID	O_Date	C_ID	F_Name
1	2023-08-23	1	Ram
2	2023-06-12	2	Ajay
3	2023-02-12	3	Samarth
4	2022-04-10	4	Aditya
6	2021-02-23	6	Vishnu
7	2023-03-18	7	Aniket
8	2021-11-24	8	Akansha
9	2022-05-11	9	Khushi
10	2023-07-21	10	Vijay

2. Write an SQL query to find the total revenue generated by each electronic gadget product. Include the product name and the total revenue.

```

176 • SELECT P.P_Name,
177 •     SUM(OD.Quantity * P.Price) AS TotalRevenue
178 • FROM OrderDetails OD
179 • JOIN Products P ON OD.P_ID = P.P_ID
180 • GROUP BY P.P_ID, P.P_Name;
181

```

100% 27:180 1 error found

P_Name	TotalRevenue
oneplus earbuds pro	17600
Hp pavilion	38500
nothing earphone	11000
Apple iphone 15	660000
Noise digital watch	13200
Oneplus 10R	55000

3. Write an SQL query to list all customers who have made at least one purchase. Include their names and contact information.

```

182 • SELECT C.C_id, C.F_name, C.L_name, C.email, C.phone_no, C.address
183 FROM Customers C
184 JOIN Orders O ON C.C_id = O.C_id;
185

```

100% 1:185 1 error found

C_id	F_name	L_name	email	phone_no	address
1	Ram	Saxena	ram.saxena@gmail.com	9876543219	Avas vikas colony
2	Ajay	Chaudhary	ajay.chaudhary@gmail.com	9945653872	12/A Laxmanpuri
3	Samarth	Gupta	samarth.gupta@gmail.com	8897675434	Lakhperabagh
4	Aditya	Mohan	aditya.mohan12@gmail.com	7867654563	vijaynagar
6	Vishnu	Singh	vishnu.singh@gmail.com	9123445664	Lakhperabagh
7	Aniket	Chaubey	aniket.chaubey@gmail.com	8837472973	Indira nagar
8	Akansha	Singh	akansha.singh@gmail.com	6387543453	Alambagh
9	Khushi	Bhatia	khushi.bhatia@gmail.com	6347682363	Munshipulia
10	Vijay	Verma	vijay.verma@gmail.com	7722346433	nawabganj

4. Write an SQL query to find the most popular electronic gadget, which is the one with the highest total quantity ordered. Include the product name and the total quantity ordered.

```

186 • SELECT P.P_Name,
187 SUM(OD.Quantity) AS TotalQuantityOrdered
188 FROM Products P
189 JOIN OrderDetails OD ON P.P_id = OD.P_id
190 GROUP BY P.P_Name
191 ORDER BY TotalQuantityOrdered DESC
192 LIMIT 1;

```

100% 9:192 1 error found

P_Name	TotalQuantityOrdered
Apple iphone 15	8

5. Write an SQL query to retrieve a list of electronic gadgets along with their corresponding categories.

```

195 • SELECT P_Name
196 FROM Products;

```

100% 15:196 1 error found

P_Name
nothing earphone
oneplus earbuds pro
Hp pavilion
Dell laptop
Apple iphone 15
Noise digital watch
Philips Trimmer
Oneplus 10R
Lenovo laptop
Realme 5 pro
BOLTT Smartwatch

6. Write an SQL query to calculate the average order value for each customer. Include the customer's name and their average order value.

```

198 • SELECT C.C_ID, C.F_name, AVG(O.Total) AS AverageOrderValue
199 FROM Customers C
200 JOIN Orders O ON C.C_id = O.C_id
201 GROUP BY C.C_id, C.F_name;

```

100% 27:201 1 error found

C_ID	F_name	AverageOrderValue
1	Ram	421300.0000
2	Ajay	13200.0000
3	Samarth	38500.0000
4	Aditya	5500.0000
6	Vishnu	NULL
7	Aniket	247500.0000
8	Akansha	NULL
9	Khushi	55000.0000
10	Vijay	14300.0000

7. Write an SQL query to find the order with the highest total revenue. Include the order ID, customer information, and the total revenue.

```
204 • SELECT O.O_id, C.C_id, C.F_name, C.L_name, C.email,
205         C.phone_no, O.Total AS TotalRevenue
206 FROM Orders O
207 JOIN Customers C ON O.C_id = C.C_id
208 ORDER BY TotalRevenue DESC
209 LIMIT 1;
```

O_id	C_id	F_name	L_name	email	phone_no	TotalRevenue
1	1	Ram	Saxena	ram.saxena@gmail.com	9876543219	421300

8. Write an SQL query to list electronic gadgets and the number of times each product has been ordered.

```
211 • SELECT P.P_name,
212        COUNT(OD.P_id) AS OrderCount
213 FROM
214     Products P
215 LEFT JOIN
216     OrderDetails OD ON P.P_id = OD.P_id
217 GROUP BY P.P_name;
```

P_name	OrderCount
nothing earphone	2
oneplus earbuds pro	2
Hp pavilion	1
Dell laptop	0
Apple iPhone 15	2
Noise digital watch	1
Philips Trimmer	0
Oneplus 10R	1
Lenovo laptop	0
Realme 5 pro	0
BOLTT Smartwatch	0

9. Write an SQL query to find customers who have purchased a specific electronic gadget product. Allow users to input the product name as a parameter.

```
220 • SELECT C.F_name, C.L_name, C.email, C.phone_no
221 FROM Customers C
222 JOIN Orders O ON C.C_id = O.C_id
223 JOIN OrderDetails OD ON O.O_id = OD.O_id
224 JOIN Products P ON OD.P_id = P.P_id
225 WHERE P.P_Name= 'Noise digital watch';
```

F_name	L_name	email	phone_no
--------	--------	-------	----------

10. Write an SQL query to calculate the total revenue generated by all orders placed within a specific time period. Allow users to input the start and end dates as parameters.

```

230 • SELECT
231     SUM(O.Total) AS TotalRevenue
232 FROM
233     Orders O
234 JOIN
235     OrderDetails OD ON O.O_id = OD.O_id
236 WHERE
237     O.O_Date BETWEEN '2023-01-01' AND '2023-12-31';
238
239
100% 52:237 3 errors found

```

Result Grid
TotalRevenue
1170400

Task 4. Subquery and its type:

1. Write an SQL query to find out which customers have not placed any orders.

```

239 • SELECT *
240 FROM Customers C
241 WHERE C.C_id NOT IN (SELECT DISTINCT C_id FROM Orders);
242
243
100% 1:243 3 errors found

```

C_id	F_name	L_name	email	phone_no	address	TotalOrders
5	Tripti	Verma	tripti.verma@gmail.com	9823452519	Srawasti nagar	0
11	Ashish	Kumar	ashish.kumar@gmail.com	9863423874	Charbagh	0

2. Write an SQL query to find the total number of products available for sale.

```

244 • SELECT COUNT(*) AS TotalProducts
245 FROM Products;
246
247
100% 15:245 3 errors found

```

Result Grid
TotalProducts
11

3. Write an SQL query to calculate the total revenue generated by TechShop.

```

246 • SELECT
247     SUM(Total) AS TotalRevenue
248 FROM
249     Orders O
250 JOIN
251     OrderDetails OD ON O.O_id = OD.O_id
252
253
100% 1:257 3 errors found

```

Result Grid
TotalRevenue
1230900

4. Write an SQL query to calculate the average quantity ordered for products in a specific category. Allow users to input the category name as a parameter.

```

256 • SELECT AVG(OD.Quantity) AS AverageQuantityOrdered
257 FROM Products P
258 JOIN OrderDetails OD ON P.P_id = OD.P_id;
259
260
100% 42:258 4 errors found

```

Result Grid
AverageQuantityOrder...
1.8889

5. Write an SQL query to calculate the total revenue generated by a specific customer. Allow users to input the customer ID as a parameter.

```
262 • SELECT SUM(O.Total) AS TotalRevenue
263 FROM Orders O
264 where O.C_id='03';
265
```

100% 1:260 4 errors found

Result Grid
TotalRevenue
38500

6. Write an SQL query to find the customers who have placed the most orders. List their names and the number of orders they've placed.

```
266 • SELECT C.C_id, C.F_name, COUNT(O.O_id) AS NumberOfOrders
267 FROM Customers C
268 JOIN Orders O ON C.C_id = O.C_id
269 GROUP BY C.C_id
270 ORDER BY NumberOfOrders DESC
271 LIMIT 1;
272
```

100% 1:272 4 errors found

Result Grid Filter Rows: Search Export: Fetch rows:

C_id	F_name	NumberOfOrders
1	Ram	1

7. Write an SQL query to find the most popular product category, which is the one with the highest total quantity ordered across all orders.

273 • SELECT P_name, MAX(OD.Quantity) AS TotalQuantityOrdered
274 FROM Products P
275 JOIN OrderDetails OD ON P.P_id = OD.P_id
276 GROUP BY P_name
277 ORDER BY TotalQuantityOrdered DESC
278 LIMIT 1;
279

100% 9:278 4 errors found

Result Grid Filter Rows: Search Export: Fetch rows:

P_name	TotalQuantityOrder...
Apple iPhone 15	5

Result Grid

8. Write an SQL query to find the customer who has spent the most money (highest total revenue) on electronic gadgets. List their name and total spending.

```

280 • SELECT C.C_id, C.F_name, SUM(Total) AS TotalSpending
281 FROM Customers C
282 JOIN Orders O ON C.C_id = O.C_id
283 JOIN OrderDetails OD ON O.O_id = OD.O_id
284 JOIN Products P ON OD.P_id = P.P_id
285 GROUP BY C.C_id
286 ORDER BY TotalSpending DESC
287 LIMIT 1;
288

```

100% 10:286 4 errors found

Result Grid			Filter Rows: <input type="text" value="Search"/>	Export:	Fetch rows:
C_id	F_name	TotalSpendi...			
1	Ram	842600			

9. Write an SQL query to calculate the average order value (total revenue divided by the number of orders) for all customers.

```

289 • SELECT
290     C.C_id, C.F_name, C.L_name, COUNT(O.O_id) as numeroforders, SUM(O.Total) as TotalRevenue,
291     AVG(O.Total) as AverageOrderValue
292 FROM Customers C
293 LEFT JOIN Orders O ON C.C_id=O.C_id
294 GROUP BY C.C_id
295

```

100% 1:295 4 errors found

Result Grid						Filter Rows: <input type="text" value="Search"/>	Export:
C_id	F_name	L_name	numeroforde...	TotalRevenue	AverageOrderValue		
1	Ram	Saxena	1	421300	421300.0000		
2	Ajay	Chaudhary	1	13200	13200.0000		
3	Samarth	Gupta	1	38500	38500.0000		
4	Aditya	Mohan	1	5500	5500.0000		
5	Tripti	Verma	0	NULL	NULL		

10. Write an SQL query to find the total number of orders placed by each customer and list their names along with the order count.

```

296 • SELECT
297     C.C_id,
298     C.F_name,
299     COUNT(O.O_id) AS OrderCount
300 FROM
301     Customers C
302 LEFT JOIN
303     Orders O ON C.C_id= O.C_id
304 GROUP BY
305     C.C_id, C.F_name;
306

```

100% 1:306 5 errors found

Result Grid			Filter Rows: <input type="text" value="Search"/>	Export:
C_id	F_name	OrderCount		
1	Ram	1		
2	Ajay	1		
3	Samarth	1		
4	Aditya	1		
5	Tripti	0		
6	Vishnu	1		
7	Aniket	1		
8	Akansha	1		
9	Khushi	1		
10	Vijay	1		
11	Ashish	0		