

Week – 7

Hands on Lab Questions

1. Table: Students

Student_ID	Firstname	Lastname	Age	Gender	Grade
1	Rakesh	Shrestha	19	Male	A
2	Binita	Bhandari	21	Female	B
3	Bobby	Sherpa	20	Male	C
4	Sagar	Parajuli	22	Male	A
5	Prajina	KC	21	Female	B

Student_ID	Firstname	Lastname	Age	Gender	Grade
1	Rakesh	Shrestha	20	Male	A
2	Binita	Bhandari	21	Female	F
3	Bobby	Sherpa	21	Male	C
4	Sagar	Parajuli	23	Male	A
5	Prajina	KC	21	Female	A

Queries:

a. Retrieve all data from the Students Table

The screenshot shows the phpMyAdmin web interface. The browser address bar displays 'localhost/phpmyadmin/index.php?route=/sql&pos=0&db=students&table=students'. The interface includes a sidebar with a database structure tree on the left, showing databases like 'employee', 'employees', 'hck', 'information_schema', 'mysql', 'performance_schema', 'phpmyadmin', 'students', and 'test'. The main panel shows the 'students' table selected. A green status bar indicates 'Showing rows 0 - 4 (5 total, Query took 0.0003 seconds.)'. Below this, the SQL query 'SELECT * FROM `students`' is entered. A toolbar with options like 'Browse', 'Structure', 'SQL', 'Search', 'Insert', 'Export', 'Import', 'Privileges', 'Operations', and 'Triggers' is visible. The table data is displayed in a grid with columns: Student_ID, Firstname, Lastname, Age, Gender, and Grade. The data rows are: (1, Rakesh, Shrestha, 19, Male, A), (2, Binita, Bhandari, 21, Female, B), (3, Bobby, Sherpa, 20, Male, C), (4, Sagar, Parajuli, 22, Male, A), and (5, Prajina, KC, 21, Female, B). Each row has action buttons for 'Edit', 'Copy', and 'Delete'. At the bottom, there are options for 'Check all', 'With selected', 'Edit', 'Copy', 'Delete', and 'Export'. A 'Query results operations' section at the very bottom includes 'Print', 'Copy to clipboard', 'Export', 'Display chart', and 'Create view'.

b. Retrieve first name and last name of all students

The screenshot shows the phpMyAdmin interface for the 'students' database. The left sidebar displays the database structure, including 'students'. The main panel shows the 'Table: students' view. A query box contains the SQL: `SELECT Firstname, Lastname FROM `students`;`. The results show 5 rows: Rakesh Shrestha, Binita Bhandari, Bobby Sherpa, Sagar Parajuli, and Prajina KC. The interface includes navigation tabs (Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, Triggers) and a 'Show query box' button.

	Firstname	Lastname
<input type="checkbox"/>	Rakesh	Shrestha
<input type="checkbox"/>	Binita	Bhandari
<input type="checkbox"/>	Bobby	Sherpa
<input type="checkbox"/>	Sagar	Parajuli
<input type="checkbox"/>	Prajina	KC

c. Retrieve only the students who have a grade A

The screenshot shows the phpMyAdmin interface for the 'students' database. The left sidebar displays the database structure, including 'students'. The main panel shows the 'Table: students' view. A query box contains the SQL: `SELECT * FROM `students` WHERE Grade='A';`. The results show 2 rows: Rakesh Shrestha (Grade A) and Sagar Parajuli (Grade A). The interface includes navigation tabs (Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, Triggers) and a 'Show query box' button.

	Student_ID	Firstname	Lastname	Age	Gender	Grade
<input type="checkbox"/>	1	Rakesh	Shrestha	19	Male	A
<input type="checkbox"/>	4	Sagar	Parajuli	22	Male	A

d. Retrieve only the students who are older than 20

The screenshot shows the phpMyAdmin interface for the 'students' database. The 'SQL' tab is selected, and the following query is entered in the query box:

```
SELECT * FROM `students` WHERE Age > 20;
```

The query has been executed successfully, showing 3 rows. The results are displayed in a table with the following columns: Student_ID, Firstname, Lastname, Age, Gender, and Grade.

	Student_ID	Firstname	Lastname	Age	Gender	Grade
<input type="checkbox"/>	2	Binita	Bhandari	21	Female	B
<input type="checkbox"/>	4	Sagar	Parajuli	22	Male	A
<input type="checkbox"/>	5	Prajina	KC	21	Female	B

e. Retrieve the count of male and female students

The screenshot shows the phpMyAdmin interface for the 'students' database. The 'SQL' tab is selected, and the following query is entered in the query box:

```
SELECT COUNT(Gender) FROM `students` WHERE Gender='Male';
```

The query has been executed successfully, showing 1 row with the result: 3.

Below this, the same interface is shown with the following query entered in the query box:

```
SELECT COUNT(Gender) FROM `students` WHERE Gender='Female';
```

The query has been executed successfully, showing 1 row with the result: 2.

f. Update the grade of a specific student (e.g. StudentID=3)

The screenshot shows the phpMyAdmin interface for a database named 'students'. The left sidebar displays a tree view of databases, with 'students' selected. The main panel shows the 'Table: students' view. A query box at the top contains the SQL statement: `UPDATE students SET Grade = 'F' WHERE Student_ID=2;`. Below the query box, a message indicates '0 rows affected. (Query took 0.0003 seconds.)'. The 'Query results' section shows the first 5 rows of the 'students' table, with columns: Student_ID, Firstname, Lastname, Age, Gender, and Grade. The data is as follows:

Student_ID	Firstname	Lastname	Age	Gender	Grade
1	Rakesh	Shrestha	19	Male	A
2	Binita	Bhandari	21	Female	F
3	Bobby	Sherpa	20	Male	C
4	Sagar	Parajuli	22	Male	A
5	Prajina	KC	21	Female	B

Below the table, there are options to 'Check all', 'With selected', 'Edit', 'Copy', 'Delete', and 'Export'. The 'Query results operations' section at the bottom includes links for 'Print', 'Copy to clipboard', 'Export', 'Display chart', and 'Create view'.

g. Increment the age of all male students by 1

The screenshot shows the phpMyAdmin web interface in a browser. The address bar indicates the URL is `localhost/phpmyadmin/index.php?route=/table/sql&db=students&table=students`. The interface shows the 'students' table selected in the 'Database: students' context.

The SQL query executed is:

```
UPDATE students SET Age = (Age + 1) WHERE Gender='Male';
```

The result shows that 3 rows were affected. Below the query, the table data is displayed:

Student_ID	Firstname	Lastname	Age	Gender	Grade
1	Rakesh	Shrestha	20	Male	A
2	Binita	Bhandari	21	Female	F
3	Bobby	Sherpa	21	Male	C
4	Sagar	Parajuli	23	Male	A
5	Prajina	KC	21	Female	B

The interface also shows a 'Query results operations' section with options like Print, Copy to clipboard, Export, Display chart, and Create view.

h. Update the grade of all female students who have a grade of 'B' to 'A'

localhost / 127.0.0.1 / students /

localhost/phpmyadmin/index.php?route=/table/sql&db=students&table=students

Server: 127.0.0.1 Database: students Table: students

1 row affected. (Query took 0.0015 seconds.)

```
UPDATE students SET Grade = 'A' WHERE Gender='Female' AND Grade = 'B';
```

Showing rows 0 - 4 (5 total, Query took 0.0003 seconds.)

```
SELECT * FROM students;
```

Student_ID	Firstname	Lastname	Age	Gender	Grade
1	Rakesh	Shrestha	20	Male	A
2	Binita	Bhandari	21	Female	F
3	Bobby	Sherpa	21	Male	C
4	Sagar	Parajuli	23	Male	A
5	Prajina	KC	21	Female	A

2. Table: Customers

Customer_ID	Firstname	Lastname	Age	Gender	Email
1	Kabir	Sharma	25	Male	kabir@gmail.com
2	Haris	Shrestha	30	Male	haris@gmail.com
3	Deepti	Singh	26	Female	deepti@gmail.com

Customer_ID	Firstname	Lastname	Age	Gender	Email
1	Kabir	Sharma	25	Male	kabir@gmail.com
2	Haris	Shrestha	30	Male	haris@gmail.com
3	Deepti	Singh	26	Female	deepti@gmail.com

Table: Orders

OrderID	CustomerID	OrderDate	Total
1	1	2023-04-06	1000
2	1	2023-04-01	3000
3	2	2023-03-22	3500
4	3	2023-04-04	2300

OrderID	CustomerID	OrderDate	Total
1	1	2023-04-6	1000
2	1	2023-04-1	3000
3	2	2023-03-22	3500
4	3	2023-04-04	2300

Table: OrderItems

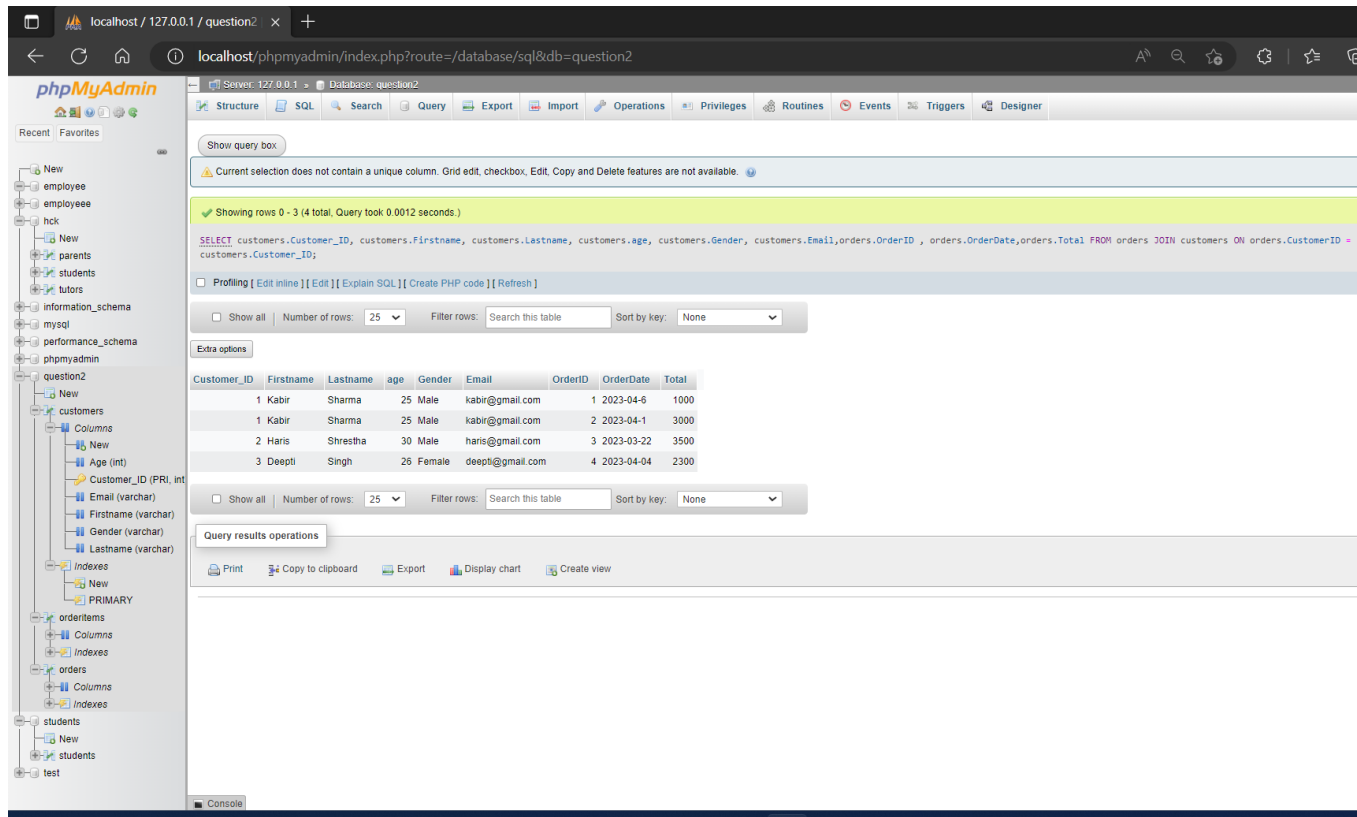
OrderItemID	OrderID	ProductItems	Quantity	Price
1	1	Product A	2	1200
2	1	Product B	3	1345
3	2	Product C	4	1360

4	3	Product D	5	950
5	3	Product E	1	1125
6	4	Product F	2	1780
7	4	Product G	1	1560
8	3	Product H	3	1220

OrderItemID	OrderID	ProductItems	Quantity	Price
1	1	Product A	2	1200
2	1	Product B	3	1345
3	2	Product C	4	1360
4	3	Product D	5	950
5	3	Product E	1	1125
6	4	Product F	2	1780
7	4	Product G	1	1560
8	3	Product H	3	1220

Queries:

a. Retrieve all orders along with the customer details



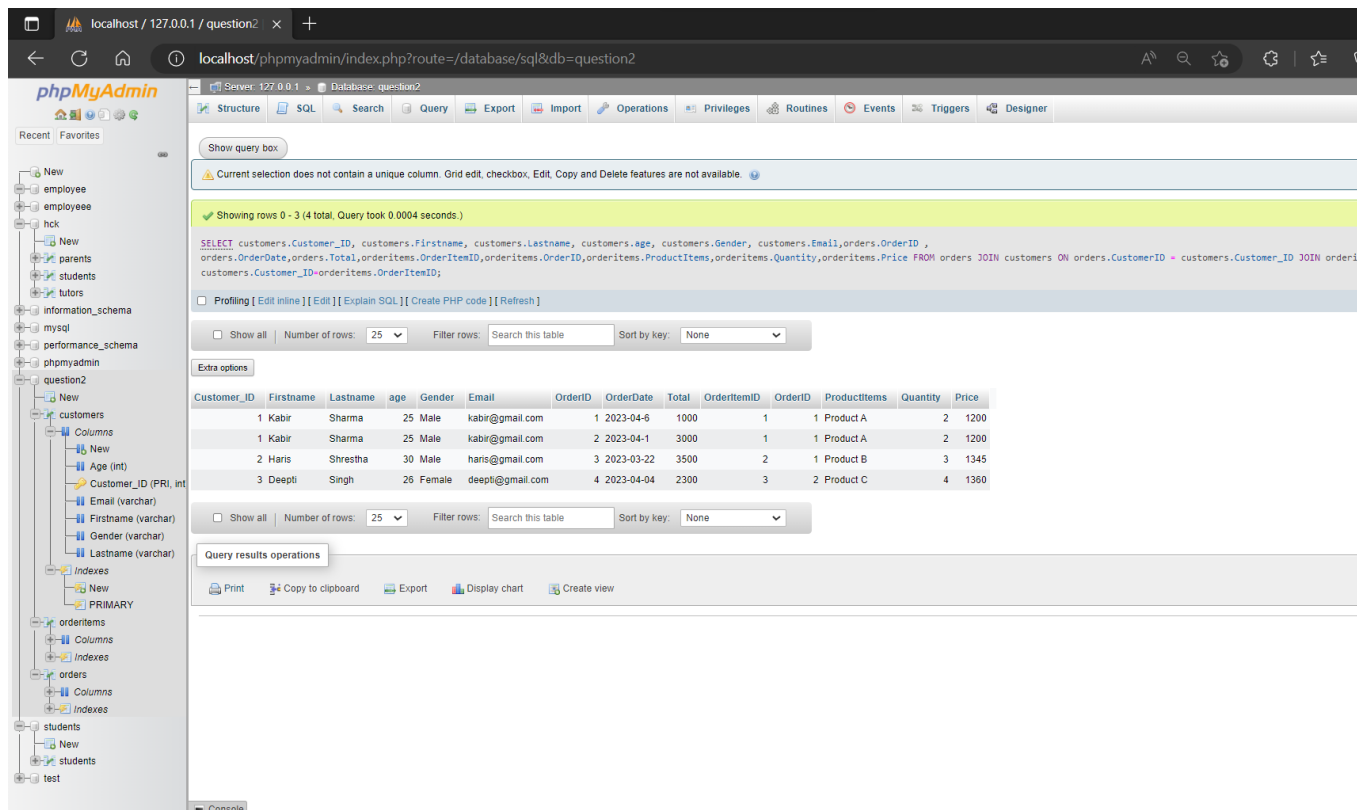
The screenshot shows the phpMyAdmin interface for a database named 'question2'. The left sidebar displays the database structure, including tables like 'customers', 'orders', 'orderItems', 'students', and 'test'. The main panel shows a query result for the following SQL statement:

```
SELECT customers.Customer_ID, customers.Firstname, customers.Lastname, customers.age, customers.Gender, customers.Email, orders.OrderID, orders.OrderDate, orders.Total FROM orders JOIN customers ON orders.Customer_ID = customers.Customer_ID;
```

The query results are displayed in a table with 8 columns: Customer_ID, Firstname, Lastname, age, Gender, Email, OrderID, and OrderDate. The results show 4 rows of data:

Customer_ID	Firstname	Lastname	age	Gender	Email	OrderID	OrderDate
1	Kabir	Sharma	25	Male	kabir@gmail.com	1	2023-04-6
1	Kabir	Sharma	25	Male	kabir@gmail.com	2	2023-04-1
2	Haris	Shrestha	30	Male	haris@gmail.com	3	2023-03-22
3	Deepti	Singh	26	Female	deepti@gmail.com	4	2023-04-04

b. Retrieve all orders along with the customer details and order items



The screenshot shows the phpMyAdmin interface for a database named 'question2'. The left sidebar displays the database structure, including tables like 'customers', 'orders', 'orderItems', 'students', and 'test'. The main panel shows a query result for the following SQL statement:

```
SELECT customers.Customer_ID, customers.Firstname, customers.Lastname, customers.age, customers.Gender, customers.Email, orders.OrderID, orders.OrderDate, orders.Total, orderItems.OrderItemID, orderItems.OrderID, orderItems.ProductItems, orderItems.Quantity, orderItems.Price FROM orders JOIN customers ON orders.Customer_ID = customers.Customer_ID JOIN orderItems ON orders.OrderID = orderItems.OrderID;
```

The query results are displayed in a table with 12 columns: Customer_ID, Firstname, Lastname, age, Gender, Email, OrderID, OrderDate, Total, OrderItemID, ProductItems, and Price. The results show 4 rows of data:

Customer_ID	Firstname	Lastname	age	Gender	Email	OrderID	OrderDate	Total	OrderItemID	ProductItems	Price
1	Kabir	Sharma	25	Male	kabir@gmail.com	1	2023-04-6	1000	1	1 Product A	2
1	Kabir	Sharma	25	Male	kabir@gmail.com	2	2023-04-1	3000	1	1 Product A	2
2	Haris	Shrestha	30	Male	haris@gmail.com	3	2023-03-22	3500	2	1 Product B	3
3	Deepti	Singh	26	Female	deepti@gmail.com	4	2023-04-04	2300	3	2 Product C	4

c. Retrieve the customer details for a specific order (e.g. OrderID=2)

The screenshot shows the phpMyAdmin interface with the 'question2' database selected. The 'SQL' tab is active, displaying a query that retrieves customer details for a specific order. The query is: `SELECT customers.Customer_ID, customers.Firstname, customers.Lastname, customers.age, customers.Gender, customers.Email, orders.OrderID, orders.OrderDate, orders.Total FROM orders JOIN customers ON orders.CustomerID = customers.Customer_ID WHERE orders.OrderID=2;` The result shows one row for Customer ID 1, Kabir Sharma, with OrderID 2, OrderDate 2023-04-1, and Total 3000.

Showing rows 0 - 0 (1 total, Query took 0.0004 seconds.)

```
SELECT customers.Customer_ID, customers.Firstname, customers.Lastname, customers.age, customers.Gender, customers.Email, orders.OrderID, orders.OrderDate, orders.Total FROM orders JOIN customers ON orders.CustomerID = customers.Customer_ID WHERE orders.OrderID=2;
```

Extra options

Customer_ID	Firstname	Lastname	age	Gender	Email	OrderID	OrderDate	Total
1	Kabir	Sharma	25	Male	kabir@gmail.com	2	2023-04-1	3000

Query results operations

Print Copy to clipboard Export Display chart Create view

d. Retrieve all orders for a specific customer (e.g. CustomerID=1)

The screenshot shows the phpMyAdmin interface with the 'question2' database selected. The 'SQL' tab is active, displaying a query that retrieves all orders for a specific customer. The query is: `SELECT customers.Customer_ID, customers.Firstname, customers.Lastname, customers.age, customers.Gender, customers.Email, orderitems.OrderItemID, orderitems.OrderID, orderitems.ProductItems, orderitems.Quantity, orderitems.Price FROM customers JOIN orderitems ON customers.Customer_ID = orderitems.OrderID WHERE customers.Customer_ID=1;` The result shows two rows for Customer ID 1, Kabir Sharma, with OrderItemID 1 and 2, OrderID 1 and 2, ProductItems 'Product A' and 'Product B', Quantity 2 and 3, and Price 1200 and 1345.

Showing rows 0 - 1 (2 total, Query took 0.0004 seconds.)

```
SELECT customers.Customer_ID, customers.Firstname, customers.Lastname, customers.age, customers.Gender, customers.Email, orderitems.OrderItemID, orderitems.OrderID, orderitems.ProductItems, orderitems.Quantity, orderitems.Price FROM customers JOIN orderitems ON customers.Customer_ID = orderitems.OrderID WHERE customers.Customer_ID=1;
```

Extra options

Customer_ID	Firstname	Lastname	age	Gender	Email	OrderItemID	OrderID	ProductItems	Quantity	Price
1	Kabir	Sharma	25	Male	kabir@gmail.com	1	1	Product A	2	1200
1	Kabir	Sharma	25	Male	kabir@gmail.com	2	1	Product B	3	1345

Query results operations

Print Copy to clipboard Export Display chart Create view

e. Retrieve the total revenue generated by each customer

The screenshot shows the phpMyAdmin interface for a database named 'question2'. The 'customers' table is selected. A SQL query is entered in the 'Show query box' area, which calculates the total revenue for each customer by summing the product of quantity and price from the 'orderitems' table. The query is executed, and the results are displayed in a table with 3 rows. The table has columns: Customer_ID, Firstname, Lastname, and Revenue_Total. The results show three customers: Kabir Sharma with a revenue of 11875, Haris Shrestha with 9535, and Deepti Singh with 5120. The interface also includes a sidebar with a database structure tree, a top navigation bar with various tools like Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, and Triggers, and a bottom console area.

Server: 127.0.0.1 / Database: question2 / Table: customers

Showing rows 0 - 2 (3 total. Query took 0.0016 seconds)

```
SELECT customers.Customer_ID, customers.Firstname, customers.Lastname, SUM(orderitems.Quantity*orderitems.Price) AS Revenue_Total FROM customers JOIN orders on customers.Customer_ID = orders.CustomerID JOIN orderitems on orders.OrderID = orderitems.OrderID GROUP BY customers.Customer_ID, customers.Firstname, customers.Lastname;
```

Customer_ID	Firstname	Lastname	Revenue_Total
1	Kabir	Sharma	11875
2	Haris	Shrestha	9535
3	Deepti	Singh	5120

Query results operations: Print, Copy to clipboard, Export, Display chart, Create view