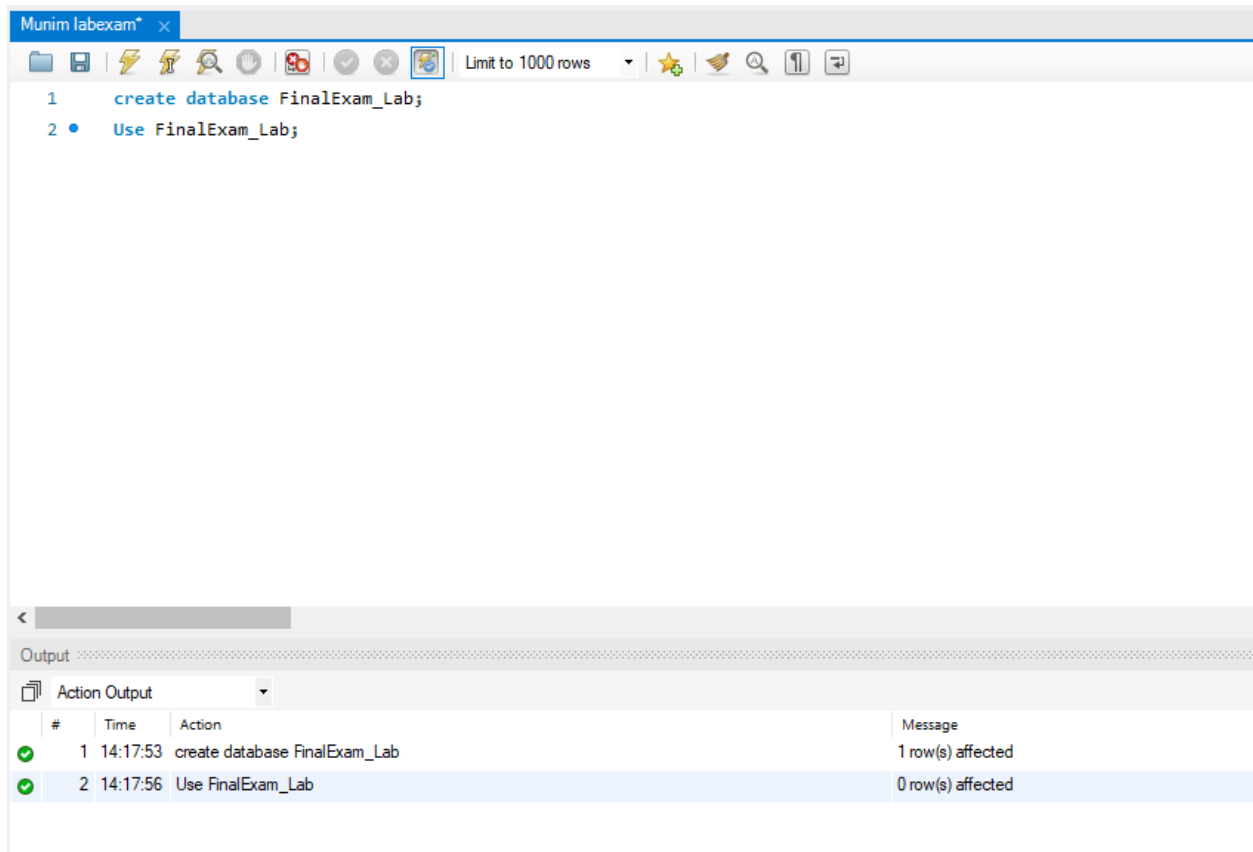**Name: Abdul Munim Usmani**

Roll no: SE211062

Subject: Database Systems Lab

Q1: Create a database as "FinalExam-Lab".

Q2: Create the table Employees and display results that only include employees with their managers.

TABLE CREATED:

Limit to 1000 rows

```sql
 4  CREATE TABLE Employee(
 5      Emp_ID INT ,
 6      Emp_Name VARCHAR(50),
 7      Emp_Profile VARCHAR(100),
 8      Emp_Country VARCHAR(50),
 9      ManagerId INT
10      );

11

12

13  INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (101,'Salman Jave
14  INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (104,'Raj Choundh
15  INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (105,'Shanti Desa
16  INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (108,'Ruba Arif',
17  INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (109,'Khan Khatta

18

19  SELECT Emp_Name,ManagerId FROM Employee;
```

Output

Action Output

#	Time	Action	Message
1	14:17:53	create database FinalExam_Lab	1 row(s) affected
2	14:17:56	Use FinalExam_Lab	0 row(s) affected
3	14:29:02	CREATE TABLE Employee(Emp_ID INT , Emp_Name VARCHAR(50), Emp_Profile VARCHAR(100...	0 row(s) affected

Displaying results that only include employees with their managers_id

Limit to 1000 rows

```
15  •   INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (105,'Shanti Desai','Software Engineer','Paks
16  •   INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (108,'Ruba Arif','Development Executive','Eur
17  •   INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (109,'Khan Khattak','Marketing Manager','Mexi
18
19  •   SELECT Emp_Name,ManagerId FROM Employee;
```

Result Grid   Filter Rows: Export: Wrap Cell Content:

Emp_Name	ManagerId
Salman Javed	104
Raj Choundhary	108
Shanti Desai	101
Ruba Arif	101
Khan Khattak	NULL

Result Grid

Form Editor

Field Types

Employee 1 ×   Read Only

Output

Action Output

#	Time	Action	Message
5	14:30:26	INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (1...	1 row(s) affected
6	14:30:26	INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (1...	1 row(s) affected
7	14:30:26	INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (1...	1 row(s) affected
8	14:30:26	INSERT INTO Employee(Emp_ID,Emp_Name,Emp_Profile,Emp_Country,ManagerId) VALUES (1...	1 row(s) affected
9	14:30:33	SELECT Emp_Name,ManagerId FROM Employee LIMIT 0, 1000	5 row(s) returned

Q3: Consider a scenario where a customer can have many mobiles while a mobile is owned by only one customer. How should data be structured to support Join Operation in a one-tomany relationship? (All required constraints need to be specified accordingly)

Q4: Students can be enrolled in any number of classes and in one class there can be more than one students enrolled

Showing bridge Table Relation:

Q5: According to the scenario given in Q4 arrange the data in a table to query the number of students enrolled in Maths class.

```
106      );
107
108  ●  SELECT COUNT(*) AS Enrolled_Students
109      FROM Enrollment
110      WHERE Class_ID = 1;
111
```

	Enrolled_Students
▶	2

Result 6 ✕

Output

Action Output

#	Time	Action	Message
✓	43	15:10:17	INSERT INTO Enrollment (Enrollment_ID, Student_ID, Class_ID) VALUES (1, 1, 1), (2, 1, 2), (3, 2...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0
✓	44	15:32:15	SELECT * FROM Enrollment LIMIT 0, 1000	5 row(s) returned
✓	45	15:32:25	SELECT Student.Student_ID, Student.Student_Name, Class.Class_ID, Class.Class_Name FRO...	5 row(s) returned
✓	46	15:34:36	SELECT * FROM Enrollment LIMIT 0, 1000	5 row(s) returned
✓	47	15:38:51	SELECT COUNT(*) AS Enrolled_Students FROM Enrollment WHERE Class_ID = 1 LIMIT 0, 1000	1 row(s) returned

Q6: Write down query to produce the output given below.

```
132
133 ●  SELECT d.EmployeeID, d.First_Name,p.Project_Name
134     FROM Employee_Detail d
135     JOIN ProjectDetail p ON d.EmployeeID = p.EmployeeID
136     WHERE d.First_Name = 'Vikas' OR d.First_Name = 'Ashish';
137
```

Result Grid

EmployeeID	First_Name	Project_Name
1	Vikas	TaskTrack
1	Vikas	CLP
1	Vikas	Survey Management
3	Ashish	TaskTrack
3	Ashish	GRS
3	Ashish	DDS

Result 7 ×   ❶ Read Only

Output

Action Output

#	Time	Action	Message
✅ 55	15:44:30	create table ProjectDetail(ProjectDetail_ID INT PRIMARY KEY, EmployeeID int, FOREIGN KEY ...	0 row(s) affected
❌ 56	15:44:37	INSERT INTO Enrollment (Enrollment_ID, EmployeeID ,Project_Name) VALUES (1, 1, 'TaskTra...	Error Code: 1054. Unknown column 'EmployeeID' in 'field list'
✅ 57	15:45:38	INSERT INTO ProjectDetail(ProjectDetail_ID, EmployeeID ,Project_Name) VALUES (1, 1, 'Task...	8 row(s) affected Records: 8 Duplicates: 0 Warnings: 0
❌ 58	15:51:41	SELECT d.EmployeeID, d.First_Name,p.Project_Name FROM Employee_Detail d JOIN Project_...	Error Code: 1146. Table 'finalexam_lab.project_detail' doesn't exist
✅ 59	15:52:28	SELECT d.EmployeeID, d.First_Name,p.Project_Name FROM Employee_Detail d JOIN ProjectD...	6 row(s) returned

Q7: Write a stored procedure that accepts an integer and output as corresponding word format: For example if user input 45, output should be produced as Forty five.


```
208      └ END//
209
210        DELIMITER ;
211
212 ●     CALL NumberToWord2(45);
213
```

Result Grid

CONCAT(tens, ' ', ones)
▶ Forty Five

Result 12 ×   ❶ Read Only Context Help Snippets
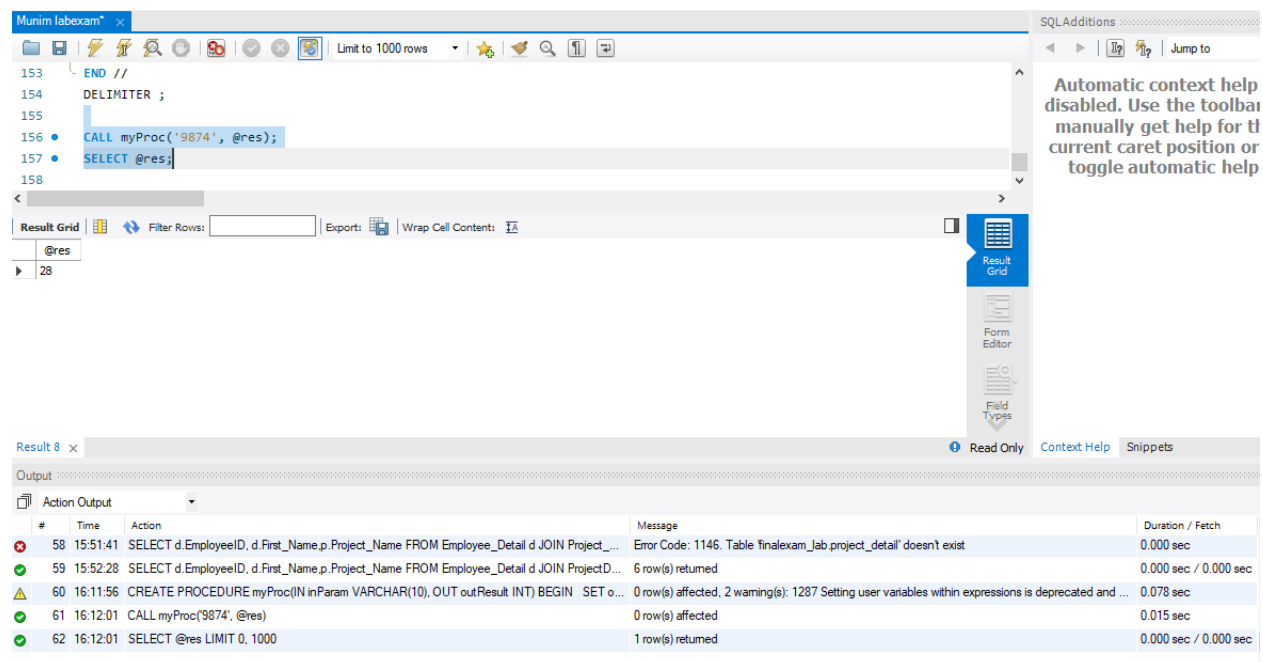
Output

Action Output

#	Time	Action	Message	Duration / Fetch
✅ 72	16:24:47	CALL update_salary()	1 row(s) returned	0.000 sec / 0.000 sec
✅ 73	16:24:47	CALL update_salary()	1 row(s) returned	- / 0.000 sec
✅ 74	16:24:47	CALL update_salary()	4 row(s) returned	- / 0.000 sec
✅ 75	16:26:59	CREATE PROCEDURE NumberToWord2(IN num INT) BEGIN DECLARE ones VARCHAR(20);...	0 row(s) affected	0.094 sec
✅ 76	16:27:05	CALL NumberToWord2(45)	1 row(s) returned	0.000 sec / 0.000 sec

Q8: Write a stored procedure that accepts an input parameter as '9874' and give output as '28'. Decipher the logic or relation behind input and output.

Q9: Create a procedure to increase salary of Employee Id 102 by 1000 and produce the below given output.

```
238        SELECT EMPLOYEE_ID, FORMAT(SALARY, 2) AS SALARY FROM employees;
239    END //
240    DELIMITER ;
241
242 ●  CALL update_salary();
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: 𝖨A

EMPLOYEE_ID	SALARY
100	240,000.00
101	170,000.00
102	171,000.00
103	9,000.00

Result Grid

Form Editor

Field Types

Result 9   Result 10   Result 11 ×

ⓘ Read Only   Context Help   Snippets

Output

Action Output ▾

#	Time	Action	Message	Duration / Fetch
✓	70	16:24:36	DROP PROCEDURE `finalexam_lab`.`update_salary`	0 row(s) affected	0.110 sec
✓	71	16:24:43	CREATE PROCEDURE update_salary() BEGIN -- Retrieve the current salary of Employee ID 1...	0 row(s) affected	0.047 sec
✓	72	16:24:47	CALL update_salary()	1 row(s) returned	0.000 sec / 0.000 se
✓	73	16:24:47	CALL update_salary()	1 row(s) returned	- / 0.000 sec
✓	74	16:24:47	CALL update_salary()	4 row(s) returned	- / 0.000 sec