

SQL Internship Task 1: Demonstrating Joins in Relational Databases

Step 1: Create the Database

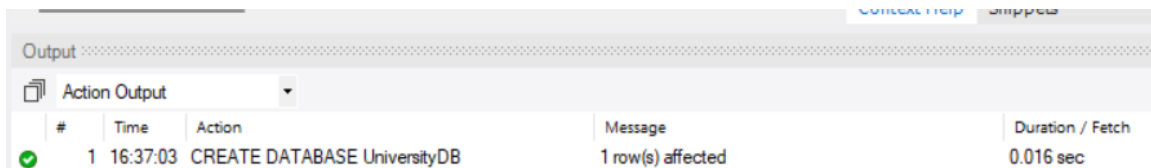
Query:

```
CREATE DATABASE UniversityDB;
```

Explanation:

This query creates a new database named 'UniversityDB'.

Output:



The screenshot shows a SQL client interface with a tab labeled 'Output'. Below the tab is a dropdown menu set to 'Action Output'. The output is displayed in a table with five columns: '#', 'Time', 'Action', 'Message', and 'Duration / Fetch'. A single row is shown, indicating the successful execution of the 'CREATE DATABASE UniversityDB' command at 16:37:03. The message states '1 row(s) affected' and the duration is '0.016 sec'. A green checkmark is visible in the first column.

#	Time	Action	Message	Duration / Fetch
✓ 1	16:37:03	CREATE DATABASE UniversityDB	1 row(s) affected	0.016 sec

Step 2: Use the Created Database

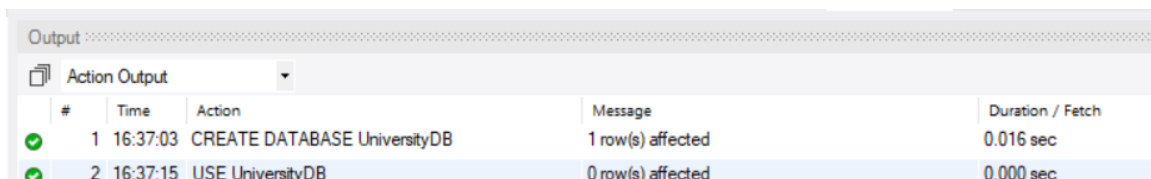
Query:

```
USE UniversityDB;
```

Explanation:

Switches the active database context to 'UniversityDB'.

Output:



The screenshot shows the same SQL client interface as before, but now with two rows of output. The second row shows the successful execution of the 'USE UniversityDB' command at 16:37:15. The message states '0 row(s) affected' and the duration is '0.000 sec'. A green checkmark is visible in the first column.

#	Time	Action	Message	Duration / Fetch
✓ 1	16:37:03	CREATE DATABASE UniversityDB	1 row(s) affected	0.016 sec
✓ 2	16:37:15	USE UniversityDB	0 row(s) affected	0.000 sec

Step 3: Create the Employees Table

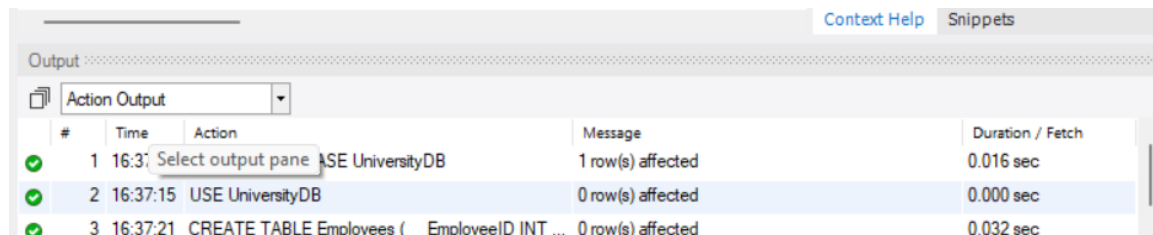
Query:

```
CREATE TABLE Employees (  
    EmployeeID INT PRIMARY KEY,  
    Name VARCHAR(100),  
    DepartmentID INT  
);
```

Explanation:

Creates a table named 'Employees' with columns for Employee ID, Name, and Department ID.

Output:



The screenshot shows the 'Output' window in SQL Server Enterprise Manager. The 'Action Output' tab is selected, displaying a table with columns: #, Time, Action, Message, and Duration / Fetch. The table contains three rows of execution results.

#	Time	Action	Message	Duration / Fetch
1	16:37:03	USE UniversityDB	1 row(s) affected	0.016 sec
2	16:37:15	USE UniversityDB	0 row(s) affected	0.000 sec
3	16:37:21	CREATE TABLE Employees (EmployeeID INT ...	0 row(s) affected	0.032 sec

Step 4: Insert Data into Employees Table

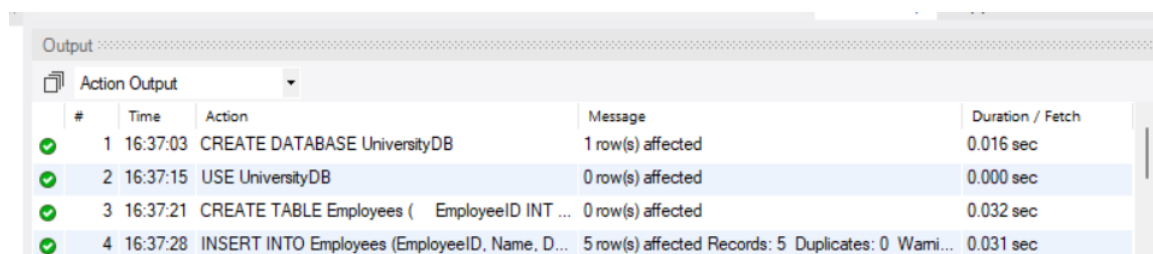
Query:

```
INSERT INTO Employees (EmployeeID, Name, DepartmentID) VALUES  
(1, 'Riya', 201),(2, 'Pratik', 202),  
(3, 'Shravani', 203),(4, 'Kartik', 204),  
(5, 'Pratiksha', NULL);
```

Explanation:

Populates the 'Employees' table with sample data.

Output:



The screenshot shows the 'Output' window in SQL Server Enterprise Manager. The 'Action Output' tab is selected, displaying a table with columns: #, Time, Action, Message, and Duration / Fetch. The table contains four rows of execution results.

#	Time	Action	Message	Duration / Fetch
1	16:37:03	CREATE DATABASE UniversityDB	1 row(s) affected	0.016 sec
2	16:37:15	USE UniversityDB	0 row(s) affected	0.000 sec
3	16:37:21	CREATE TABLE Employees (EmployeeID INT ...	0 row(s) affected	0.032 sec
4	16:37:28	INSERT INTO Employees (EmployeeID, Name, D...	5 row(s) affected Records: 5 Duplicates: 0 Wami...	0.031 sec

Step 5: Create the Departments Table

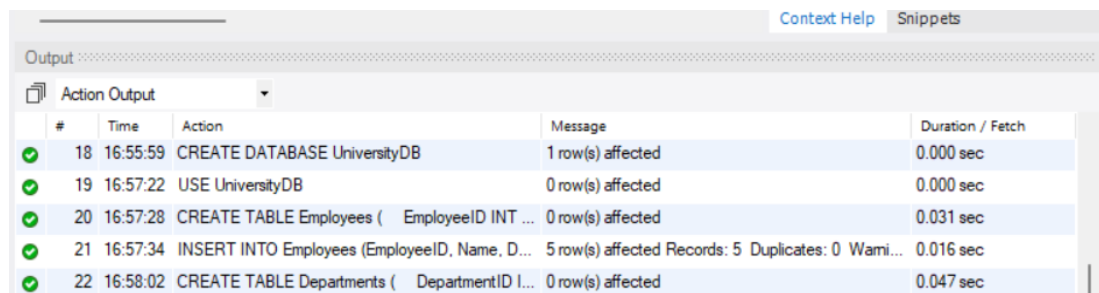
Query:

```
CREATE TABLE Departments (  
    DepartmentID INT PRIMARY KEY,  
    DepartmentName VARCHAR(100)  
);
```

Explanation:

Creates a table named 'Departments' with columns for Department ID and Department Name.

Output:



#	Time	Action	Message	Duration / Fetch
✓ 18	16:55:59	CREATE DATABASE UniversityDB	1 row(s) affected	0.000 sec
✓ 19	16:57:22	USE UniversityDB	0 row(s) affected	0.000 sec
✓ 20	16:57:28	CREATE TABLE Employees (EmployeeID INT ...	0 row(s) affected	0.031 sec
✓ 21	16:57:34	INSERT INTO Employees (EmployeeID, Name, D...	5 row(s) affected Records: 5 Duplicates: 0 Wami...	0.016 sec
✓ 22	16:58:02	CREATE TABLE Departments (DepartmentID I...	0 row(s) affected	0.047 sec

Step 6: Insert Data into Departments Table

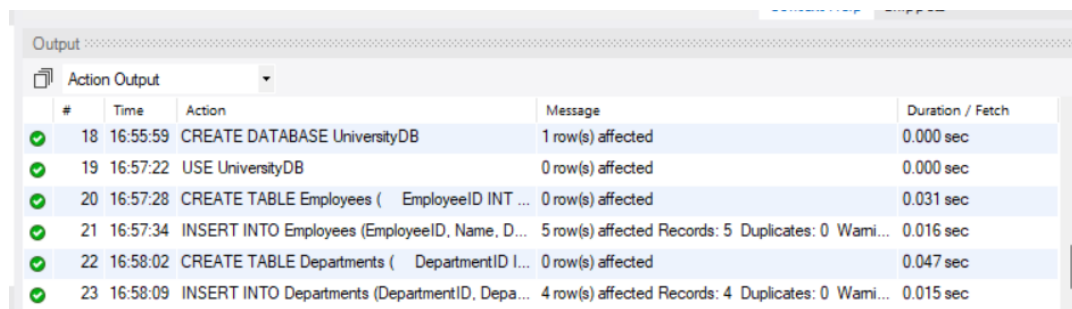
Query:

```
INSERT INTO Departments (DepartmentID, DepartmentName) VALUES  
(201, 'Computer'),(202, 'Information Technology'),  
(203, 'Electrical'),(205, 'Mechanical');
```

Explanation:

Populates the 'Departments' table with sample data.

Output:



#	Time	Action	Message	Duration / Fetch
✓ 18	16:55:59	CREATE DATABASE UniversityDB	1 row(s) affected	0.000 sec
✓ 19	16:57:22	USE UniversityDB	0 row(s) affected	0.000 sec
✓ 20	16:57:28	CREATE TABLE Employees (EmployeeID INT ...	0 row(s) affected	0.031 sec
✓ 21	16:57:34	INSERT INTO Employees (EmployeeID, Name, D...	5 row(s) affected Records: 5 Duplicates: 0 Wami...	0.016 sec
✓ 22	16:58:02	CREATE TABLE Departments (DepartmentID I...	0 row(s) affected	0.047 sec
✓ 23	16:58:09	INSERT INTO Departments (DepartmentID, Depa...	4 row(s) affected Records: 4 Duplicates: 0 Wami...	0.015 sec

Step 7: INNER JOIN Query

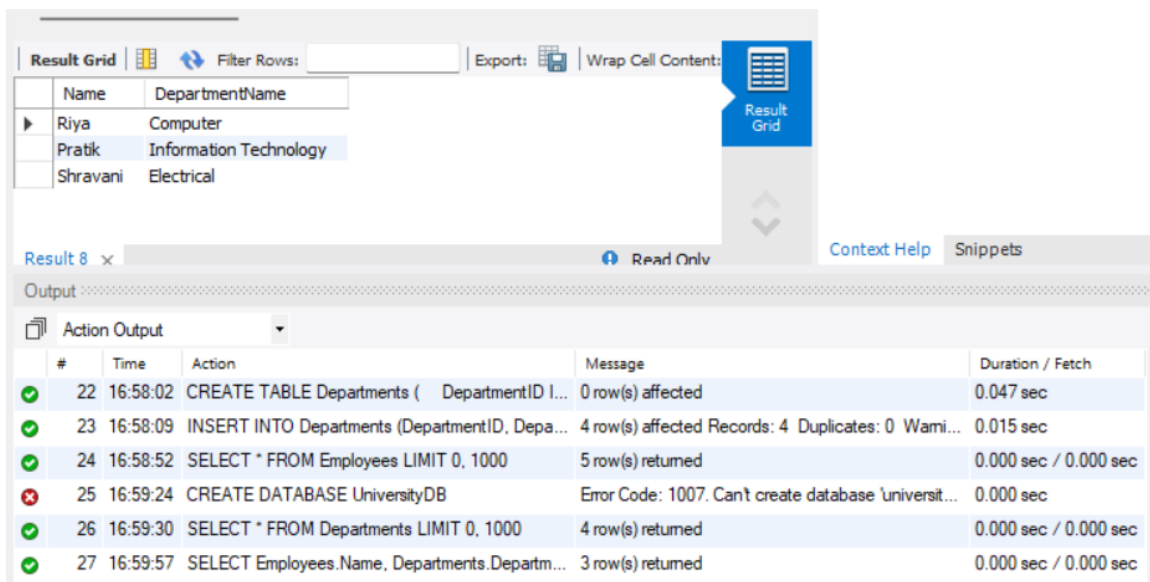
Query:

```
SELECT Employees.Name, Departments.DepartmentName
FROM Employees
INNER JOIN Departments
ON Employees.DepartmentID = Departments.DepartmentID;
```

Explanation:

Performs an INNER JOIN to retrieve employees and their matching department names.

Output:



	Name	DepartmentName
▶	Riya	Computer
	Pratik	Information Technology
	Shravani	Electrical

#	Time	Action	Message	Duration / Fetch
✓ 22	16:58:02	CREATE TABLE Departments (DepartmentID I...	0 row(s) affected	0.047 sec
✓ 23	16:58:09	INSERT INTO Departments (DepartmentID, Depa...	4 row(s) affected Records: 4 Duplicates: 0 Wami...	0.015 sec
✓ 24	16:58:52	SELECT * FROM Employees LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
✗ 25	16:59:24	CREATE DATABASE UniversityDB	Error Code: 1007. Can't create database 'universit...	0.000 sec
✓ 26	16:59:30	SELECT * FROM Departments LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
✓ 27	16:59:57	SELECT Employees.Name, Departments.Departm...	3 row(s) returned	0.000 sec / 0.000 sec

Step 8: LEFT JOIN Query

Query:

```
SELECT Employees.Name, Departments.DepartmentName
FROM Employees
LEFT JOIN Departments
ON Employees.DepartmentID = Departments.DepartmentID;
```

Explanation:

Performs a LEFT JOIN to retrieve all employees and their department names (if available).

Output:

The screenshot displays the SQL Server Enterprise Manager interface. The top pane shows the 'Result Grid' for a query, displaying 5 rows of data with columns 'Name' and 'DepartmentName'. The bottom pane shows the 'Action Output' log, which includes the following entries:

#	Time	Action	Message	Duration / Fetch
23	16:58:09	INSERT INTO Departments (DepartmentID, Depa...	4 row(s) affected Records: 4 Duplicates: 0 Warni...	0.015 sec
24	16:58:52	SELECT * FROM Employees LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
25	16:59:24	CREATE DATABASE UniversityDB	Error Code: 1007. Can't create database 'universit...	0.000 sec
26	16:59:30	SELECT * FROM Departments LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
27	16:59:57	SELECT Employees.Name, Departments.Departm...	3 row(s) returned	0.000 sec / 0.000 sec
28	17:00:29	SELECT Employees.Name, Departments.Departm...	5 row(s) returned	0.000 sec / 0.000 sec

Step 9: RIGHT JOIN Query

Query:

```
SELECT Employees.Name, Departments.DepartmentName
FROM Employees
RIGHT JOIN Departments
ON Employees.DepartmentID = Departments.DepartmentID;
```

Explanation:

Performs a RIGHT JOIN to retrieve all departments and their matching employee names (if available).

Output:

The screenshot displays a database management interface. At the top, a 'Result Grid' shows the output of a query. The grid has two columns: 'Name' and 'DepartmentName'. The data rows are:

Name	DepartmentName
Riya	Computer
Pratik	Information Technology
Shravani	Electrical
NULL	Mechanical

Below the result grid, the 'Output' pane shows the 'Action Output' log. It contains a table with columns: '#', 'Time', 'Action', 'Message', and 'Duration / Fetch'.

#	Time	Action	Message	Duration / Fetch
24	16:58:52	SELECT * FROM Employees LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
25	16:59:24	CREATE DATABASE UniversityDB	Error Code: 1007. Can't create database 'universit...	0.000 sec
26	16:59:30	SELECT * FROM Departments LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
27	16:59:57	SELECT Employees.Name, Departments.Departm...	3 row(s) returned	0.000 sec / 0.000 sec
28	17:00:29	SELECT Employees.Name, Departments.Departm...	5 row(s) returned	0.000 sec / 0.000 sec
29	17:01:16	SELECT Employees.Name, Departments.Departm...	4 row(s) returned	0.000 sec / 0.000 sec

Step 10: FULL JOIN Query

Query:

```
SELECT Employees.Name, Departments.DepartmentName
```

```
FROM Employees
```

```
FULL JOIN Departments
```

```
ON Employees.DepartmentID = Departments.DepartmentID;
```

Explanation:

Not Supported By MySQL

Simulates a FULL JOIN using a UNION of LEFT JOIN and RIGHT JOIN queries.

Output:

Output					
Action Output					
	#	Time	Action	Message	Duration / Fetch
✗	25	16:59:24	CREATE DATABASE UniversityDB	Error Code: 1007. Can't create database 'universit...	0.000 sec
✓	26	16:59:30	SELECT * FROM Departments LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
✓	27	16:59:57	SELECT Employees.Name, Departments.Departm...	3 row(s) returned	0.000 sec / 0.000 sec
✓	28	17:00:29	SELECT Employees.Name, Departments.Departm...	5 row(s) returned	0.000 sec / 0.000 sec
✓	29	17:01:16	SELECT Employees.Name, Departments.Departm...	4 row(s) returned	0.000 sec / 0.000 sec
✗	30	17:01:35	SELECT Employees.Name, Departments.Departm...	Error Code: 1054. Unknown column 'Employees.N...	0.000 sec