

Company Database (the provided database) – JOIN Queries

1. Display the department ID, department name, manager ID, and the full name of the manager.

The screenshot shows the Microsoft SQL Server Management Studio interface. A query window is open with the following SQL code:

```

SELECT
    d.Dnum AS DepartmentID,
    d.Dname AS DepartmentName,
    d.EmpSSN AS ManagerID,
    e.FirstName + ' ' + e.LastName AS ManagerFullName
FROM Department d
JOIN Employee e
    ON d.EmpSSN = e.SSN;

```

The results pane displays the following data:

DepartmentID	DepartmentName	ManagerID	ManagerFullName
1	Human Resources	1	Ahmed Alkhaled
2	Finance	2	Omar Alkhaili
3	Information Technology	3	Fatima Alsharthy
4	Marketing	4	Yusuf AlRavashi
5	Operations	5	Leyle Almalati

A message at the bottom of the results pane says "Query executed successfully."

2. Display the names of departments and the names of the projects they control.

The screenshot shows the Microsoft SQL Server Management Studio interface. A query window is open with the following SQL code:

```

FROM Department d
JOIN Employee e
    ON d.EmpSSN = e.SSN;

SELECT
    d.Dname AS DepartmentName,
    p.Pname AS ProjectName
FROM Department d
JOIN Project p
    ON d.Dnum = p.Dnum;

```

The results pane displays the following data:

DepartmentName	ProjectName
Finance	Payroll System
Information Technology	Website Upgrade
Human Resources	Recruitment Drive
Marketing	Marketing Campaign
Operations	Logistics Optimization

A message at the bottom of the results pane says "Query executed successfully."

3. Display full data of all dependents, along with the full name of the employee they depend on.

```

companyDatabase.sql - DESKTOP-GILBFIO.companyDatabase (DESKTOP-GILBFIO\neura (6)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help
Object Explorer
File Edit View Query Project Tools Window Help
New Query Execute Find Replace Go To Object Explorer
[+] companyDatabase [+] companyDatabase... (39P00hours (80))
FROM Department d
JOIN Project p
ON d.Dnum = p.Dnum;

SELECT
dep.Dnum,
e.FirstName + ' ' + e.LastName AS EmployeeFullName
FROM EMPDependent dep
JOIN Employee e
ON dep.EmpSSN = e.SSN;

```

Results

DependentName	EmpSSN	Dnum	DependentGender	DOBdate	EmployeeFullName
Sara	1	1		2012-05-12	Ahmed Albusaid
Omar	2	2	0	2012-09-23	Omer Alhaili
Huda	3	3	1	2015-11-15	Fatma Alhary
Khalid	4	4	0	2017-04-08	Yusuf Alkhanhi
Aisha	5	5	1	2018-12-19	Layla Alwani

Query executed successfully.

4. Display the project ID, name, and location of all projects located in Muscat' and Barka.

```

companyDatabase... (39P00hours (63)) - Microsoft SQL Server Management Studio (Administrator)

File Edit View Query Project Tools Window Help
Object Explorer
File Edit View Query Project Tools Window Help
New Query Execute Find Replace Go To Object Explorer
[+] companyDatabase [+] companyDatabase... (39P00hours (63))
e.FirstName + ' ' + e.LastName AS EmployeeFullName
FROM EMPDependent dep
JOIN Employee e
ON dep.EmpSSN = e.SSN;

SELECT
Pnum,
Pname,
Plocation
FROM Project
WHERE City IN ('Muscat', 'Barka');

```

Results

Pnum	Pname	Plocation
1	Parallel System	Main Office
2	Marketing Campaign	Main Office
3	Logistics Optimization	Warehouse

Query executed successfully.

5. Display all project data where the project name starts with the letter 'M'.

companyDatabase.sql - DESKTOP-GILBFIO.companyDatabase (DESKTOP-GILBFIO\inoua (6)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT
    Pnum, Pname, Location, City, Dnum
FROM Project
WHERE Pname LIKE '%m%';

```

Pnum	Pname	Location	City	Dnum
1	Marketing Campaign	Main Office	Muscat	4

Query executed successfully.

6. Display the IDs and names of employees in department 30 with a salary between 1000 and 2000 LE.

```

ALTER TABLE Employee
ADD Salary DECIMAL(18,2);

SET IDENTITY_INSERT Department ON;

INSERT INTO Department (Dnum, Dname, HiringDate, EmpSSN)
VALUES (30, 'Sales', '2023-01-01', 1);

SET IDENTITY_INSERT Department OFF;

CREATE TABLE Employee
(
    SET Dnum = 30, Salary = 1500
    WHERE SSN = 1;
);

UPDATE Employee
SET Dnum = 30, Salary = 1800
WHERE SSN = 2;

UPDATE Employee
SET Dnum = 30, Salary = 2500
WHERE SSN = 3;

SELECT
    SSN,
    FirstName,
    LastName
FROM Employee
WHERE Dnum = 30 AND Salary BETWEEN 1000 AND 2000;

```

SSN	FirstName	LastName
1	Ahmed	Alloushi
2	Omar	Akhall

Query executed successfully.

7. Retrieve the names of employees in department 10 who work ≥ 10 hours/week on the " Website Upgrade " project.

companyDatabase.sql - DESKTOP-GILBFIO.companyDatabase (DESKTOP-GILBFIO\inoura (6)) - Microsoft SQL Server Management Studio (Administrator)

Object Explorer

```

LASTNAME
FROM Employee
WHERE Dnum = 30 AND Salary BETWEEN 1000 AND 2000;

SELECT e.FirstName, e.LastName
FROM Employee e
JOIN WorkingHours w ON e.SSN = w.EmpSSN
JOIN Project p ON w.Pnum = p.Pnum
JOIN Department d ON e.Dnum = d.Dnum
WHERE d.Dname = 'Information Technology'
AND p.Pname = 'Website Upgrade'
AND w.NumHours >= 10;

```

Results

FirstName	LastName

Query executed successfully.

Ready 24°C Sunny

8. Find the names of employees who are directly supervised by "Kamel Mohamed".

companyDatabase.sql - DESKTOP-GILBFIO.companyDatabase (DESKTOP-GILBFIO\inoura (6)) - Microsoft SQL Server Management Studio (Administrator)

Object Explorer

```

SELECT e.FirstName, e.LastName
FROM Employee e
JOIN WorkingHours w ON e.SSN = w.EmpSSN
JOIN Project p ON w.Pnum = p.Pnum
JOIN Department d ON e.Dnum = d.Dnum
WHERE d.Dname = 'Information Technology'
AND p.Pname = 'Website Upgrade'
AND w.NumHours >= 10;

SELECT e.FirstName, e.LastName
FROM Employee e
JOIN Employee s ON e.SuperID = s.SSN
WHERE s.FirstName = 'Kamel' AND s.LastName = 'Mohamed';

```

Results

FirstName	LastName

Query executed successfully.

Ready 24°C Sunny

9. Retrieve the names of employees and the names of the projects they work on, sorted by project name.

companyDatabase.sql - DESKTOP-GILBFIO.companyDatabase (DESKTOP-GILBFIO\inoura (6)) - Microsoft SQL Server Management Studio (Administrator)

```

SELECT e.FirstName, e.LastName
FROM Employee e
JOIN Employee s ON e.SuperID = s.SSN
WHERE s.FirstName = 'Kamel' AND s.LastName = 'Mohamed';

SELECT
    e.FirstName + ' ' + e.LastName AS EmployeeName,
    p.Pname AS ProjectName
FROM Employee e
JOIN WorkingHours w ON e.SSN = w.EmpSSN
JOIN Project p ON w.Pnum = p.Pnum
ORDER BY p.Pname;

```

Results

EmployeeName	ProjectName
Layla Alawati	Logistics Optimization
Yusuf Alrashid	Marketing Campaign
Ahmed Albusaidi	Payroll System
Patima Alherthy	Recruitment Drive
Omar Alnalli	Website Upgrade

Query executed successfully.

10. For each project located in Barka, display the project number, controlling department name, manager's last name, address, and birthdate.

companyDatabase.sql - DESKTOP-GILBFIO.companyDatabase (DESKTOP-GILBFIO\inoura (6)) - Microsoft SQL Server Management Studio (Administrator)

```

WHERE s.FirstName = 'Kamel' AND s.LastName = 'Mohamed';

SELECT
    e.FirstName + ' ' + e.LastName AS EmployeeName,
    p.Pname AS ProjectName
FROM Employee e
JOIN WorkingHours w ON e.SSN = w.EmpSSN
JOIN Project p ON w.Pnum = p.Pnum
ORDER BY p.Pname;

SELECT
    p.Pnum,
    d.Dname,
    e.LastName,
    e.Birthdate
FROM Project p
JOIN Department d ON p.Dnum = d.Dnum
JOIN Employee e ON d.EmpSSN = e.SSN
WHERE p.City = 'Barka';

```

Results

Pnum	Dname	LastName	Birthdate
5	Operations	Alawati	1995-12-05

Query executed successfully.

11. Display all data of managers in the company.

companyDatabase.sql - DESKTOP-GILBFIO.companyDatabase (DESKTOP-GILBFIO\neura (6)) - Microsoft SQL Server Management Studio (Administrator)

```

Object Explorer
File Edit View Query Project Tools Window Help
New Query Execute Find Replace Go To Object Properties Task List
companyDatabase
SELECT DISTINCT e.*
FROM Employee e
JOIN Department d
ON e.SSN = d.EmpSSN;

```

Results

SSN	FirstName	LastName	Birthdate	Gender	SuperID	Dnum	Salary
1	Ahmed	Albusaidi	1985-04-12	1	NULL	30	1500.00
2	Omar	Akhiali	1990-09-23	0	NULL	30	1800.00
3	Fatma	Ahbarthy	1978-01-30	1	NULL	30	2500.00
4	Yusuf	Alrawasi	1988-06-18	0	NULL	NULL	NULL
5	Layla	Alawati	1995-12-05	1	NULL	NULL	NULL

Query executed successfully.

12. Display all employees and their dependents, even if some employees have no dependents

companyDatabase.sql - DESKTOP-GILBFIO.companyDatabase (DESKTOP-GILBFIO\neura (6)) - Microsoft SQL Server Management Studio (Administrator)

```

Object Explorer
File Edit View Query Project Tools Window Help
New Query Execute Find Replace Go To Object Properties Task List
companyDatabase
SELECT DISTINCT e.*  

FROM Employee e  

JOIN Department d  

ON e.SSN = d.EmpSSN;  

  

SELECT  

e.FirstName + ' ' + e.LastName AS EmployeeName,  

dep.DependentName,  

dep.DependentGender,  

dep.DBirthdate  

FROM Employee e  

LEFT JOIN EMPDependent dep  

ON e.SSN = dep.EmpSSN;

```

Results

EmployeeName	DependentName	DependentGender	DBirthdate
1 Ahmed Albusaidi	Sara	1	2010-05-12
2 Omar Akhiali	Omar	0	2012-09-23
3 Fatma Ahbarthy	Huda	1	2015-11-15
4 Yusuf Alrawasi	Yusuf	0	2017-04-08
5 Layla Alawati	Aisha	1	2018-12-19
6 Ahmed Albusaidi	NULL	NULL	NULL
7 Omar Akhiali	NULL	NULL	NULL
8 Fatma Ahbarthy	NULL	NULL	NULL
9 Yusuf Alrawasi	NULL	NULL	NULL
10 Layla Alawati	NULL	NULL	NULL

Query executed successfully.