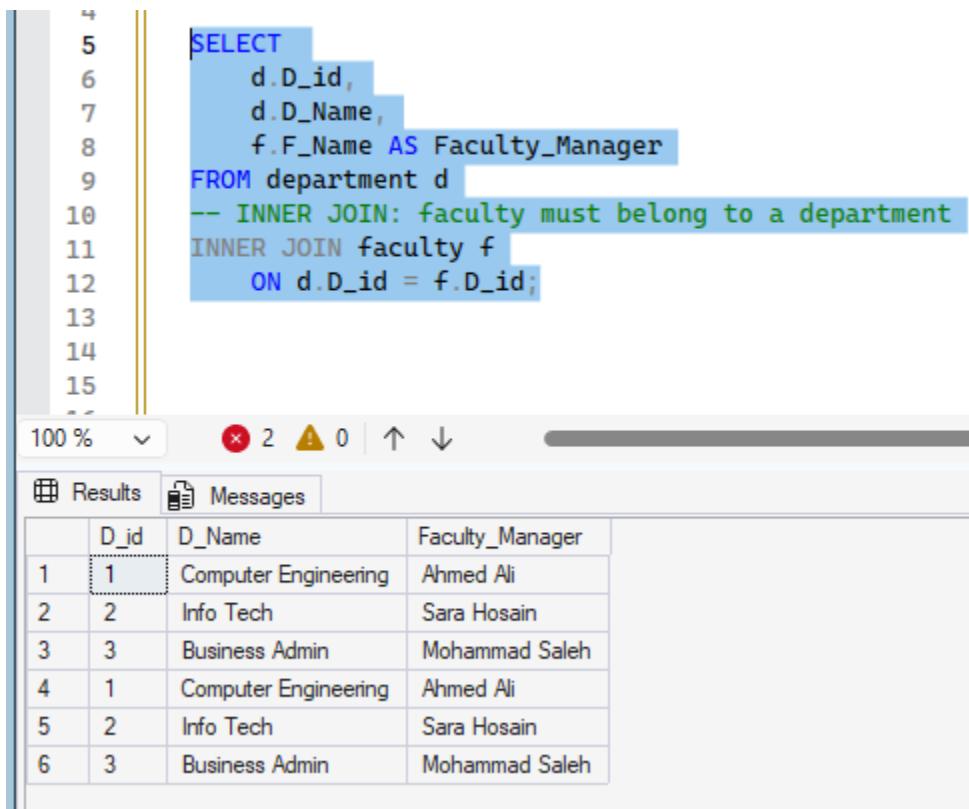University Database – JOIN Queries

1. Display the department ID, name, and the full name of the faculty managing it.

```
 4
 5    SELECT
 6         d.D_id,
 7         d.D_Name,
 8         f.F_Name AS Faculty_Manager
 9    FROM department d
10    -- INNER JOIN: faculty must belong to a department
11    INNER JOIN faculty f
12        ON d.D_id = f.D_id;
13
14
15
```

100 %   ⊗ 2 ⚠ 0 ↑ ↓

⊞ Results   📄 Messages

	D_id	D_Name	Faculty_Manager
1	1	Computer Engineering	Ahmed Ali
2	2	Info Tech	Sara Hosain
3	3	Business Admin	Mohammad Saleh
4	1	Computer Engineering	Ahmed Ali
5	2	Info Tech	Sara Hosain
6	3	Business Admin	Mohammad Saleh

2. Display each program's name and the name of the department offering it.

```
16    SELECT
17        c.c_Name AS Program_Name,
18        d.D_Name AS Department_Name
19    FROM course c
20    -- INNER JOIN: course is offered by a department
21    INNER JOIN department d
22        ON c.D_id = d.D_id;
23
```

%   ∨   ⊗ 1 ⚠ 0 ↑ ↓

Results Messages

Program_Name	Department_Name
Database Systems	Computer Engineering
Network Security	Info Tech
Business Management	Business Admin

3. Display the full student data and the full name of their faculty advisor.

```
24    -- 3. Display the full student data and the full name of their faculty advisor.
25    SELECT
26        s.*,
27        f.F_Name AS Faculty_Advisor
28    FROM student s
29    -- INNER JOIN: each student has a faculty advisor
30    INNER JOIN faculty f
31        ON s.F_id = f.F_id;
32        |
33
```

100 %   ∨   ⊗ 2 ⚠ 0 ↑ ↓   Ln: 32, Ch: 5 SF

Results Messages

	s_id	FName	LName	phone_numb	DOB	D_id	F_id	h_id	enrollment_date	status	gpa	program_id	advisor	Faculty_Advisor
1	300047	Omar	Jasim	97783436	2002-05-15	1	1	1	NULL	NULL	NULL	NULL	NULL	Ahmed Ali
2	300048	Lina	Ahmad	97043436	2001-08-20	2	2	2	NULL	NULL	NULL	NULL	NULL	Sara Hosain
3	300049	Yousef	Khaled	97789646	2003-02-10	3	3	3	NULL	NULL	NULL	NULL	NULL	Mohammad Saleh

4. Display class IDs, course titles, and room locations for classes in buildings 'A' or 'B'.

```
33    ----4. Display class IDs, course titles, and room locations for classe
34    SELECT
35        e.exam_code AS Class_ID,
36        c.c_Name AS Course_Title,
37        e.room
38    FROM exam e
39    -- INNER JOIN: exam belongs to a department offering courses
40    INNER JOIN course c
41        ON e.D_id = c.D_id
42    WHERE e.room LIKE 'A%' OR e.room LIKE 'B%';
43
44    |
```

100 %   ⌄   ❌ 2 ⚠ 0 ↑ ↓

⊞ Results   🗐 Messages

Class_ID	Course_Title	room

5. Display full data about courses whose titles start with "I" (e.g., "Introduction to...").

```
44    ----5. Display full data about courses wh
45    SELECT *
46    FROM course
47    WHERE c_Name LIKE 'I%';
48
49    |
50
```

) %   ⌄   ❌ 1 ⚠ 0 ↑ ↓

Results   🗐 Messages

c_id	c_Name	duration	D_id

6. Display names of students in program ID 3 whose GPA is between 2.5 and 3.5.

```
52   SELECT
53        s.FName,
54        s.LName
55   FROM student s
56   -- INNER JOIN: student enrolled in a course
57   INNER JOIN student_course sc
58        ON s.s_id = sc.s_id
59   WHERE sc.c_id = 3;
60
```

00 %   ∨   ⊗ 1 ⚠ 0 ↑ ↓

⊞ Results   📄 Messages

FName	LName
Yousef	Khaled

7. Retrieve student names in the Engineering program who earned grades ≥ 90 in the "Database"

Course.

```
62
63   SELECT
64        s.FName,
65        s.LName
66   FROM student s
67   -- INNER JOIN: student-course relationship
68   INNER JOIN student_course sc
69        ON s.s_id = sc.s_id
70   INNER JOIN course c
71        ON sc.c_id = c.c_id
72   WHERE s.D_id = 1
73     AND c.c_Name LIKE '%Database%';
74
75
76   |
```

100 %   ∨   ⊗ 4 ⚠ 0 ↑ ↓

⊞ Results   📄 Messages

FName	LName
Omar	Jasim

8. Find names of students who are advised by "Dr. Ahmed Hassan".

```
75       ----8. Find names of students who are
76       SELECT
77           s.FName,
78           s.LName
79       FROM student s
80       INNER JOIN faculty f
81           ON s.F_id = f.F_id
82       WHERE f.F_Name = 'Ahmed Ali';
83
```

100 %   ⊗ 4 ⚠ 0 ↑ ↓

⊞ Results   Messages

	FName	LName
1	Omar	Jasim

9. Retrieve each student's name and the titles of courses they are enrolled in, ordered by course title.

```sql
85
86    SELECT
87            s.FName,
88            s.LName,
89            c.c_Name
90        FROM student s
91        INNER JOIN student_course sc
92            ON s.s_id = sc.s_id
93        INNER JOIN course c
94            ON sc.c_id = c.c_id
95        ORDER BY c.c_Name;
96
97
```

100 %   ✔   ⊗ 2 ⚠ 0 ↑ ↓

⊞ Results   ▤ Messages

	FName	LName	c_Name
1	Yousef	Khaled	Business Management
2	Omar	Jasim	Database Systems
3	Lina	Ahmad	Network Security

10. For each class in Building 'Main', retrieve class ID, course name, department name, and faculty name teaching the class.

```sql
101            e.exam_code,
102            c.c_Name,
103            d.D_Name,
104            f.F_Name
105    FROM exam e
106
107    INNER JOIN department d
108        ON e.D_id = d.D_id
109    INNER JOIN faculty f
110        ON d.D_id = f.D_id
```

100 %   ✔   ⊗ 2 ⚠ 0 ↑ ↓

⊞ Results   ▤ Messages

exam_code	c_Name	D_Name	F_Name

11. Display all faculty members who manage any department.

```
115
116     SELECT DISTINCT
117         f.F_Name
118     FROM faculty f
119     -- INNER JOIN: faculty linked to department
120     INNER JOIN department d
121         ON f.D_id = d.D_id;
122     |
123
```

100 % ⌄   ⊗ 2 ⚠ 0 ↑ ↓

⊞ Results   📄 Messages

	F_Name
1	Ahmed Ali
2	Mohammad Saleh
3	Sara Hosain

12. Display all students and their advisors' names, even if some students don't have advisors yet.

```
124     SELECT
125         s.FName,
126         s.LName,
127         f.F_Name AS Advisor_Name
128     FROM student s
129     -- LEFT JOIN: include students even without advisor
130     LEFT JOIN faculty f
131         ON s.F_id = f.F_id;
132     |
```

100 % ⌄   ✓ No issues found

⊞ Results   📄 Messages

	FName	LName	Advisor_Name
1	Omar	Jasim	Ahmed Ali
2	Lina	Ahmad	Sara Hosain
3	Yousef	Khaled	Mohammad Saleh