

## Assignment 3

1. use deidb;  
select Name , Email from Student;

	Name	Email
▶	John Doe	john.doe@example.com
	Jane Smith	jane.smith@example.com
	Robert Johnson	robert.j@example.com
	Emily White	emily.white@example.com
	Michael Lee	michael.lee@example.com
	Sarah Brown	sarah.brown@example.com
	David Clark	david.clark@example.com
	Melissa Turner	melissa.turner@example.com

2. select CourseName,Credits from course where credits>3;

	CourseName	Credits
▶	History	4
	Chemistry	4
	Physics	4
	Biology	4

3. select ExamID,ExamDate from exam where ExamDate> '2023-11-15';

	ExamID	ExamDate
▶	204	2023-11-18
	205	2023-11-20
*	NULL	NULL

4. select \* from faculty where department='Mathematics';

	FacultyID	Name	Email	Phone	Department
▶	301	Dr. Smith	smith@example.com	111-222-3333	Mathematics
*	NULL	NULL	NULL	NULL	NULL

5. SELECT Student.Name, Course.CourseName  
FROM Student  
JOIN Enrollment ON Student.StudentID = Enrollment.StudentID  
JOIN Course ON Enrollment.CourseID = Course.CourseID;

	Name	CourseName
▶	John Doe	Mathematics
	John Doe	History
	Jane Smith	Mathematics
	Robert Johnson	Computer science
	Emily White	Literature
	Michael Lee	Chemistry
	Sarah Brown	Physics
	David Clark	Economics
	Melissa Turner	Biology

6. SELECT ExamID, AVG(Score) AS AverageScore  
FROM ExamResults  
GROUP BY ExamID;

	ExamID	AverageScore
▶	201	89.333333
	202	95.500000
	203	89.000000
	204	94.500000
	205	91.000000

7. SELECT DISTINCT Student.Name, ExamResults.Score  
FROM Student  
JOIN ExamResults ON Student.StudentID = ExamResults.StudentID  
WHERE Score > 90;

	Name	Score
▶	John Doe	92.50
	Robert Johnson	95.50
	Michael Lee	94.50
	Sarah Brown	91.00

8. SELECT Faculty.Name, COUNT(\*) AS CourseCount  
FROM Teaching  
JOIN Faculty ON Teaching.FacultyID = Faculty.FacultyID  
GROUP BY Faculty.FacultyID  
HAVING CourseCount > 1;

	Name	CourseCount
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9. SELECT Student.Name  
FROM Student  
WHERE StudentID NOT IN (SELECT StudentID FROM ExamRegistration);

	Name
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10. SELECT Course.CourseName, COUNT(Enrollment.CourseID) AS TotalEnrollments  
FROM Course  
LEFT JOIN Enrollment ON Course.CourseID = Enrollment.CourseID  
GROUP BY Course.CourseID;

	CourseName	TotalEnrollments
▶	Mathematics	2
	History	1
	Computer science	1
	Literature	1
	Chemistry	1
	Physics	1
	Economics	1
	Biology	1

11. SELECT Student.Name

FROM Student

JOIN Enrollment ON Student.StudentID = Enrollment.StudentID

JOIN Course ON Enrollment.CourseID = Course.CourseID

WHERE Course.CourseName = 'History';

	Name	CourseName
▶	John Doe	History

12. SELECT ExamID, ExamDate, Location

FROM Exam

WHERE YEAR(ExamDate) = 2023 AND MONTH(ExamDate) = 11;

	ExamID	ExamDate	Location
▶	201	2023-11-10	Exam Hall A
	202	2023-11-12	Exam Hall B
	203	2023-11-15	Exam Hall C
	204	2023-11-18	Exam Hall D
	205	2023-11-20	Exam Hall E
•	NULL	NULL	NULL

13. SELECT c.CourseName, MAX(e.Enrollments) AS MaxEnrollments

FROM Course c

LEFT JOIN (

SELECT CourseID, COUNT(StudentID) AS Enrollments

FROM Enrollment

GROUP BY CourseID

) e ON c.CourseID = e.CourseID

GROUP BY c.CourseName;

	CourseName	MaxEnrollments
▶	Mathematics	2
	History	1
	Computer science	1
	Literature	1
	Chemistry	1
	Physics	1
	Economics	1
	Biology	1

14. SELECT Student.Name, AVG(Score) AS AverageScore

FROM Student

JOIN ExamResults ON Student.StudentID = ExamResults.StudentID

GROUP BY Student.StudentID;

	Name	AverageScore
▶	John Doe	92.500000
	Jane Smith	88.000000
	Robert Johnson	95.500000
	Emily White	89.000000
	Michael Lee	94.500000
	Sarah Brown	91.000000
	David Clark	87.500000

15. SELECT E.ExamID, E.ExamDate  
FROM Exam E  
LEFT JOIN ExamRegistration ER ON E.ExamID = ER.ExamID  
WHERE ER.ExamID IS NULL;

ExamID	ExamDate
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16. SELECT Faculty.Name  
FROM Faculty  
LEFT JOIN Teaching ON Faculty.FacultyID = Teaching.FacultyID  
WHERE Teaching.FacultyID IS NULL;

Name
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17. SELECT Student.Name  
FROM Student  
JOIN Enrollment ON Student.StudentID = Enrollment.StudentID  
JOIN Course ON Enrollment.CourseID = Course.CourseID  
JOIN Teaching ON Course.CourseID = Teaching.CourseID  
JOIN Faculty ON Teaching.FacultyID = Faculty.FacultyID  
WHERE Faculty.Department IN ('Mathematics', 'Computer Science')  
GROUP BY Student.StudentID  
HAVING COUNT(DISTINCT Faculty.Department) = 2;

Result Grid
Name

18. SELECT ExamResults.ExamID, Student.Name, ExamResults.Score  
FROM ExamResults  
JOIN Student ON ExamResults.StudentID = Student.StudentID  
WHERE (ExamResults.ExamID, ExamResults.Score) IN (  
SELECT ExamID, MAX(Score)  
FROM ExamResults  
GROUP BY ExamID);

	ExamID	Name	Score
▶	201	John Doe	92.50
	202	Robert Johnson	95.50
	203	Emily White	89.00
	204	Michael Lee	94.50
	205	Sarah Brown	91.00

19. SELECT CourseName  
FROM Course

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LEFT JOIN Enrollment ON Course.CourseID = Enrollment.CourseID
WHERE Enrollment.StudentID IS NULL;
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Result Grid	
	CourseName

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20. SELECT Faculty.Name, AVG(Enrollments) AS AverageEnrollments
FROM Faculty
JOIN Teaching ON Faculty.FacultyID = Teaching.FacultyID
JOIN (
    SELECT Course.CourseID, COUNT(Enrollment.StudentID) AS Enrollments
    FROM Course
    LEFT JOIN Enrollment ON Course.CourseID = Enrollment.CourseID
    GROUP BY Course.CourseID
) AS CourseEnrollments ON Teaching.CourseID = CourseEnrollments.CourseID
GROUP BY Faculty.Name
HAVING AVG(Enrollments) > 10;
```

Result Grid		Filter Rows:
	Name	AverageEnrollments