

CS 262 Database



Session: 2022 – 2026

Submitted by:

Faisal Ilyas 2022-CS-63

Submitted to:

Mr. Samyan Qayyum Wahla

Department of Computer Science
University of Engineering and Technology
Lahore Pakistan

Database Assignment

1) List all students in a group with their registration numbers:

```
SELECT s.ID, s.RegistrationNumber  
FROM Student s  
INNER JOIN GroupStudent gs ON s.ID = gs.StudentID;
```

2) Retrieve all assignments submitted by students along with their statuses:

```
SELECT gs.StudentID, gs.Status  
FROM GroupStudent gs;
```

3) List all groups and their creation dates along with the number of students in each group

```
SELECT g.ID, g.createdOn, COUNT(gs.StudentID) AS NumberOfStudents  
FROM Group g  
LEFT JOIN GroupStudent gs ON g.ID = gs.GroupID  
GROUP BY g.ID, g.createdOn;
```

4) Get the registration number of a student who submitted an assignment:

```
SELECT s.RegistrationNumber  
FROM Student s  
INNER JOIN GroupStudent gs ON s.ID = gs.StudentID;
```

5) Retrieve all students who have not submitted any assignments yet:

```
SELECT s.ID, s.RegistrationNumber  
FROM Student s  
LEFT JOIN GroupStudent gs ON s.ID = gs.StudentID  
WHERE gs.StudentID IS NULL;
```

6) List all groups along with the number of students who have submitted assignments:

```
SELECT g.ID, COUNT(gs.StudentID) AS NumberOfStudentsWithAssignments  
FROM Group g  
LEFT JOIN GroupStudent gs ON g.ID = gs.GroupID
```

WHERE gs.Status IS NOT NULL

GROUP BY g.ID;

7) Get the registration numbers of students who submitted assignments in a particular group:

SELECT s.RegistrationNumber

FROM Student s

INNER JOIN GroupStudent gs ON s.ID = gs.StudentID

WHERE gs.GroupID = <group_id>;

8) List all groups and the total number of assignments submitted by students in each group:

SELECT g.ID, COUNT(gs.StudentID) AS TotalAssignments

FROM Group g

LEFT JOIN GroupStudent gs ON g.ID = gs.GroupID

GROUP BY g.ID;

9) Retrieve the assignment status of a specific student in a particular group:

SELECT gs.Status

FROM GroupStudent gs

WHERE gs.StudentID = <student_id> AND gs.GroupID = <group_id>;

10) Get the creation date of a group and the registration number of students who have submitted assignments:

SELECT g.createdOn, s.RegistrationNumber

FROM Group g

INNER JOIN GroupStudent gs ON g.ID = gs.GroupID

INNER JOIN Student s ON gs.StudentID = s.ID;

11) Count the number of students in each group:

SELECT GroupID, COUNT(StudentID) AS NumberOfStudents

FROM GroupStudent

GROUP BY GroupID;

12) Count the number of assignments submitted by each student:

```
SELECT StudentID, COUNT(*) AS NumberOfAssignments
FROM GroupStudent
GROUP BY StudentID;
```

13) Find the total number of assignments submitted by each group:

```
SELECT GroupID, COUNT(*) AS TotalAssignments
FROM GroupStudent
GROUP BY GroupID;
```

14) Calculate the average number of assignments submitted by students:

```
SELECT StudentID, AVG(Status) AS AverageAssignments
FROM GroupStudent
GROUP BY StudentID;
```

15) Find the earliest assignment date for each group:

```
SELECT GroupID, MIN(AssignmentDate) AS EarliestAssignmentDate
FROM GroupStudent
GROUP BY GroupID;
```

16) Find the latest assignment date for each group:

```
SELECT GroupID, MAX(AssignmentDate) AS LatestAssignmentDate
FROM GroupStudent
GROUP BY GroupID;
```

17) Calculate the total number of assignments submitted by students in each group along with the group creation date:

```
SELECT gs.GroupID, g.createdOn, COUNT(gs.StudentID) AS TotalAssignments
FROM Group g
LEFT JOIN GroupStudent gs ON g.ID = gs.GroupID
GROUP BY gs.GroupID, g.createdOn;
```

18) Calculate the average number of assignments submitted per group:

```
SELECT GroupID, AVG(Status) AS AverageAssignments
```

FROM GroupStudent

GROUP BY GroupID;

19) Find the number of assignments submitted by each student in each group:

SELECT GroupID, StudentID, COUNT(*) AS AssignmentsCount

FROM GroupStudent

GROUP BY GroupID, StudentID;

20) Find the number of students who have submitted assignments, grouped by their status (e.g., 'Submitted', 'Late', etc.):

SELECT Status, COUNT(StudentID) AS StudentCount

FROM GroupStudent

GROUP BY Status;

21) Retrieve the registration numbers of students who have submitted assignments:

SELECT RegistrationNumber

FROM Student

WHERE ID IN (SELECT StudentID FROM GroupStudent);

22) Find the IDs of groups where assignments have been submitted:

SELECT ID

FROM Group

WHERE ID IN (SELECT DISTINCT GroupID FROM GroupStudent);

23) Find the registration numbers of students who haven't submitted any assignments:

SELECT RegistrationNumber

FROM Student

WHERE ID NOT IN (SELECT DISTINCT StudentID FROM GroupStudent);

24) List the IDs of groups where no assignments have been submitted:

SELECT ID

FROM Group

WHERE ID NOT IN (SELECT DISTINCT GroupID FROM GroupStudent);

25) Count the number of students who have submitted assignments in each group:

SELECT ID, (SELECT COUNT(StudentID) FROM GroupStudent WHERE GroupID =
Group.ID) AS NumberOfStudents

FROM Group;

26) Find the assignment dates for each student along with their statuses:

SELECT StudentID, Status, AssignmentDate

FROM GroupStudent

WHERE (StudentID, AssignmentDate) IN (SELECT StudentID, MAX(AssignmentDate) FROM
GroupStudent GROUP BY StudentID);

27) List the registration numbers of students who submitted assignments on the latest date:

SELECT RegistrationNumber

FROM Student

WHERE ID IN (SELECT StudentID FROM GroupStudent WHERE AssignmentDate =
(SELECT MAX(AssignmentDate) FROM GroupStudent));

28) Find the IDs of groups where the total number of assignments exceeds a certain threshold:

SELECT ID

FROM Group

WHERE ID IN (SELECT GroupID FROM GroupStudent GROUP BY GroupID HAVING
COUNT(*) > 5);

29) List the registration numbers of students who submitted the most recent assignment in each group:

SELECT RegistrationNumber

FROM Student

WHERE ID IN (SELECT StudentID FROM GroupStudent WHERE (GroupID,
AssignmentDate) IN (SELECT GroupID, MAX(AssignmentDate) FROM GroupStudent
GROUP BY GroupID));

30) Count the number of students who have submitted assignments before a certain date:

```
SELECT COUNT(*)
```

```
FROM Student
```

```
WHERE ID IN (SELECT DISTINCT StudentID FROM GroupStudent WHERE  
AssignmentDate < '2024-01-01');
```