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SQL Queries

1. Find the average grade of all students across all courses:

SELECT AVG(grade) AS avg\_grade

FROM Enrollments;

1. List the names of students along with the courses they are enrolled in (include course name):

SELECT Students.name, Courses.course\_name

FROM Enrollments

JOIN Students ON Enrollments.student\_id = Students.student\_id

JOIN Courses ON Enrollments.course\_id = Courses.course\_id;

1. Count the number of students in each grade level:

SELECT grade\_level, COUNT(\*) AS student\_count

FROM Students

GROUP BY grade\_level;

1. Find the maximum grade achieved in each course:

SELECT Courses.course\_name, MAX(Enrollments.grade) AS max\_grade

FROM Enrollments

JOIN Courses ON Enrollments.course\_id = Courses.course\_id

GROUP BY Courses.course\_name;

1. Find the average grade of students who are in grade level 3:

SELECT AVG(Enrollments.grade) AS avg\_grade\_level\_3

FROM Enrollments

JOIN Students ON Enrollments.student\_id = Students.student\_id

WHERE Students.grade\_level = 3;

1. Get a list of students, their enrolled courses, and the credit hours for each course:

SELECT Students.name, Courses.course\_name, Courses.credits

FROM Enrollments

JOIN Students ON Enrollments.student\_id = Students.student\_id

JOIN Courses ON Enrollments.course\_id = Courses.course\_id;

1. Find all courses that have an average grade greater than 3.0:

SELECT Courses.course\_name, AVG(Enrollments.grade) AS avg\_grade

FROM Enrollments

JOIN Courses ON Enrollments.course\_id = Courses.course\_id

GROUP BY Courses.course\_name

HAVING AVG(Enrollments.grade) > 3.0;

1. Find students who have not received a grade of 4.0 in any course:

SELECT DISTINCT Students.name

FROM Students

WHERE Students.student\_id NOT IN (

SELECT Enrollments.student\_id

FROM Enrollments

WHERE Enrollments.grade = 4.0

);

1. Find the names of students whose average grade is greater than the average grade of all students:

WITH AvgAllStudents AS (

SELECT AVG(grade) AS overall\_avg

FROM Enrollments

),

StudentAverages AS (

SELECT student\_id, AVG(grade) AS student\_avg

FROM Enrollments

GROUP BY student\_id

)

SELECT Students.name

FROM Students

JOIN StudentAverages ON Students.student\_id = StudentAverages.student\_id

WHERE StudentAverages.student\_avg > (SELECT overall\_avg FROM AvgAllStudents);

1. Display each student's name, the total number of courses they are enrolled in, and their average grade:

SELECT Students.name, COUNT(Enrollments.course\_id) AS course\_count, AVG(Enrollments.grade) AS avg\_grade

FROM Students

JOIN Enrollments ON Students.student\_id = Enrollments.student\_id

GROUP BY Students.name;