

Maria Vitória Soares Klein (ump9sy)

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SQL Lab 1

I have a MacBook and, unfortunately, I was never able to download SQL onto my computer. I even tried using various online platforms, but none of them worked properly for me. However, I was still able to work through the assignment by creating the SQL queries manually. These are my answers to the exercises, and I would have tested them if I had access to an SQL environment. This is the only way I found to complete the assignment under these circumstances.

Thank you for your understanding.

```
1 -- 1. Retrieve all students who enrolled in 2023.
2 SELECT *
3 FROM Students
4 WHERE YEAR(EnrollmentDate) = 2023;
5
6 -- 2. Find students whose email contains 'gmail.com'.
7 SELECT *
8 FROM Students
9 WHERE Email LIKE '%gmail.com%';
10
11 -- 3. Count how many students are enrolled in the database.
12 SELECT COUNT(*) AS TotalStudents
13 FROM Students;
14
15 -- 4. Find students born between 2000 and 2005.
16 SELECT *
17 FROM Students
18 WHERE DateOfBirth BETWEEN '2000-01-01' AND '2005-12-31';
19
20 -- 5. List students sorted by last name in descending order.
21 SELECT *
22 FROM Students
23 ORDER BY LastName DESC;
24
25 -- 6. Find the names of students and the courses they are enrolled in.
26 SELECT
27     Students.FirstName,
28     Students.LastName,
29     Courses.CourseName
30 FROM Enrollments
31 JOIN Students ON Enrollments.StudentID = Students.StudentID
32 JOIN Courses ON Enrollments.CourseID = Courses.CourseID;
33
```

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34 -- 7. List all students and their courses, ensuring students without
    courses are included (LEFT JOIN).
35 SELECT
36     Students.FirstName,
37     Students.LastName,
38     Courses.CourseName
39 FROM Students
40 LEFT JOIN Enrollments ON Students.StudentID = Enrollments.StudentID
41 LEFT JOIN Courses ON Enrollments.CourseID = Courses.CourseID;
42
43 -- 8. Find all courses with no students enrolled (LEFT JOIN).
44 SELECT
45     Courses.CourseName
46 FROM Courses
47 LEFT JOIN Enrollments ON Courses.CourseID = Enrollments.CourseID
48 WHERE Enrollments.CourseID IS NULL;
49
50 -- 10. List courses and show the number of students enrolled in each
    course.
51 SELECT
52     Courses.CourseName,
53     COUNT(Enrollments.StudentID) AS StudentCount
54 FROM Courses
55 LEFT JOIN Enrollments ON Courses.CourseID = Enrollments.CourseID
56 GROUP BY Courses.CourseID, Courses.CourseName;
57

```