COMP 3311: Database Management Systems

Lab 4 Exercise: SQL Functions and Subqueries

WHAT TO DO

1. **Download** the zipped folder **Lab4Exercise.zip** from the ***SQL Functions and Subqueries*** entry of the Lab Schedule course webpage and unzip it. The folder contains two script files **Lab4DB.sql** and **Lab4Queries.sql**. The **Lab4DB.sql** script file drops the **Student** and **Department** tables previously created, if any, and creates five tables **Student**, **Course**, **EnrollsIn**, **Department** and **Facility**. The **Facility** table records the number of projectors and computers for each department.
2. **Place** your **InsertMyself.sql** script file inside the **Lab4Exercise** folder and **modify** it to insert into the **EnrollsIn** table an additional tuple with the following values. ← **NEW!**
   - For the **studentId** attribute, your student id.
   - For the **courseId** attribute, the value "COMP3311".
3. **Execute** the **Lab4DB.sql** script file in **SQL Developer**.
4. **Modify** the **Lab4Queries.sql** script file by constructing the following five SQL queries in the indicated locations in the script file.

   Query 1: Find the minimum, maximum, average and total number of computers over all departments.

   Query 2: Find the first name, last name, student id and cga of the students from the BUS department with the highest cga.

   Query 3: Find, for each course, the course id and the average cga of the students enrolled in the course. Order the result by average cga descending.

   Query 4: Find, for each course, the course id, student last and first name, department id and cga of the students who have the highest cga in the course. Order the result by course id ascending.

   Query 5: Find, for each student enrolled in the COMP department, the first name, last name and the number of courses in which the student is enrolled. Order the result first by the number of courses descending and second by last name ascending.

   Note 1: Your query results should show the same headers for the columns for all queries as those shown in Figure 1.
   Note 2: The average cga values should be truncated to exactly two decimal places as shown in Figure 1 (see the lab notes for how to do this).

WHAT TO SUBMIT

1. Your modified **Lab4Queries.sql** script file containing your SQL queries.
2. A jpeg or PDF file with file name Lab4 that shows the result of executing the **Lab4Queries.sql** script file as shown in Figure 1.

HOW TO SUBMIT

By 11:00 p.m. today, upload your modified **Lab4Queries.sql** script file and **jpg** screenshot file or PDF file to Canvas by selecting *Lab 4* in the Assignments section of Canvas, and then selecting the **Submit Assignment** button. To check your submission, select the **Submission Details** button on the right side of Canvas. For help, select the **Help**" button at the top-right of Canvas.

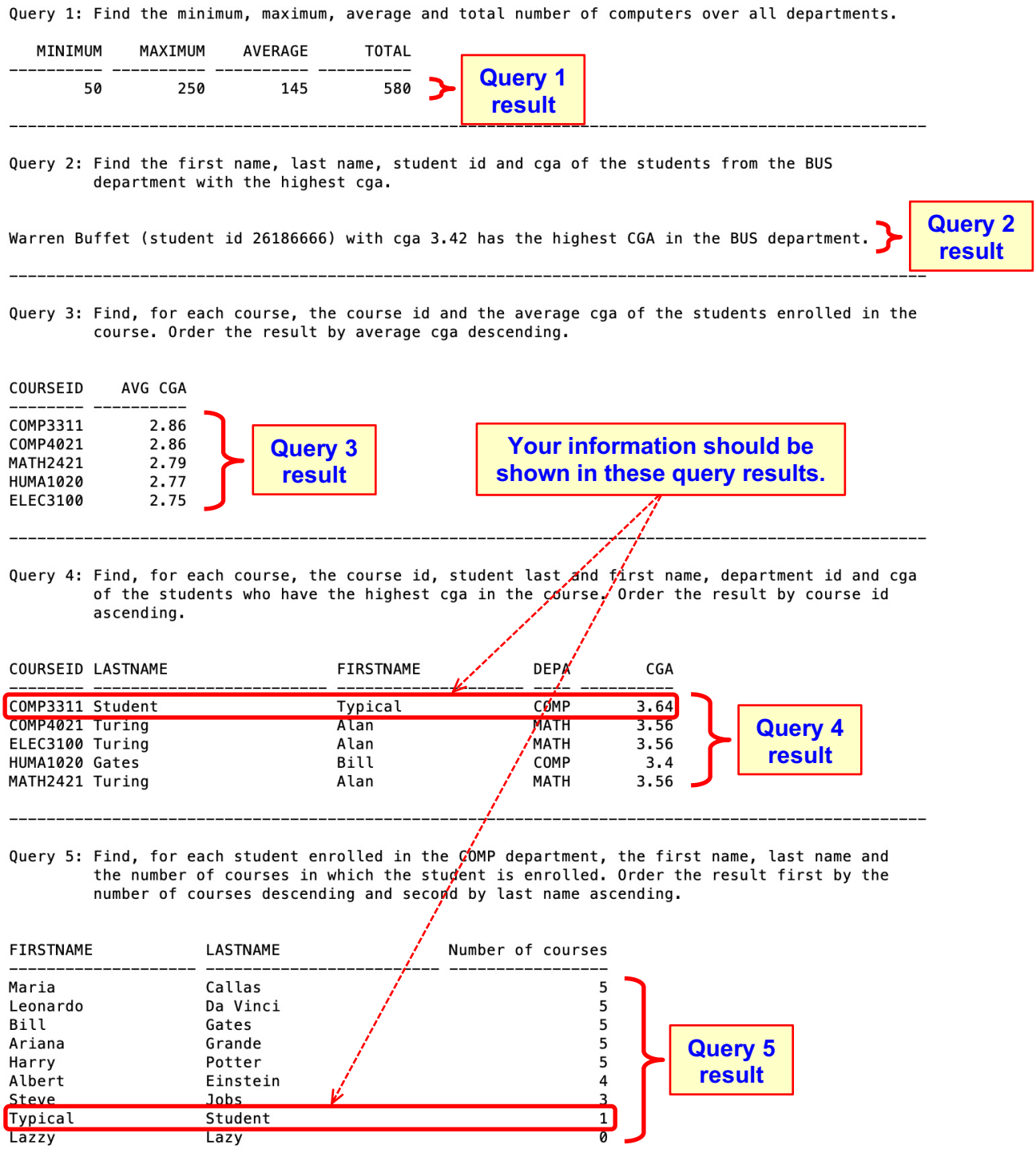

Figure 1: Example **SQL Developer** Script Output tab showing the result of executing the five queries.