CIS 182 – SQL Fundamentals – Winter 2024

W4 Exercises: Retrieving Data from Two or More Tables

(For the due date, please refer to this lab’s posting on Canvas)

Exercises

In these exercises, you’ll enter and run your own SELECT statements.

1. Write a SELECT statement that joins the Courses table to the Departments table and returns these columns: CourseNumber, CourseDescription, DepartmentName.

Sort the result set by DepartmentName and then by CourseNumber in ascending order.

Please paste a screenshot of your SQL code and result in the boxes below.

|  |
| --- |
| *Code* |
| *Result* |

1. Write a SELECT statement that joins the Instructors table to the Courses table and returns these columns: LastName, FirstName, CourseNumber, CourseDescription.

Return all courses for each instructor with a status of "P" (part time).

Sort the result set by LastName and then by FirstName in ascending order.

Please paste a screenshot of your SQL code and result in the boxes below.

|  |
| --- |
| *Code* |
| *Result* |

1. Write a SELECT statement that joins the Departments, Courses, and Instructors tables. This statement should return these columns: DepartmentName, CourseDescription, FirstName, and LastName.

Use aliases for the tables, and return only those courses with three units.

Sort the result set by DepartmentName and then by CourseDescription in ascending sequence.

Please paste a screenshot of your SQL code and result in the boxes below.

|  |
| --- |
| *Code* |
| *Result* |

1. Write a SELECT statement that joins the Departments, Courses, StudentCourses, and Students tables. This statement should return these columns: DepartmentName, CourseDescription, LastName, and FirstName.

Return all courses in the English department.

Sort the result set by DepartmentName and then by CourseDescription in ascending sequence.

Please paste a screenshot of your SQL code and result in the boxes below.

|  |
| --- |
| *Code* |
| *Result* |

1. Write a SELECT statement that joins the Instructors and Courses tables and returns these columns: LastName, FirstName, and CourseDescription.

Return at least one row for each instructor, even if that instructor isn’t teaching any courses.

Sort the result set by LastName and then by FirstName.

Please paste a screenshot of your SQL code and result in the boxes below.

|  |
| --- |
| *Code* |
| *Result* |

1. Use the UNION operator to generate a result set consisting of five columns from the Students table:

|  |  |
| --- | --- |
| Status | A calculated column that contains a value of UNDERGRAD or GRADUATED |
| FirstName | The FirstName column |
| LastName | The LastName column |
| EnrollmentDate | The EnrollmentDate column |
| GraduationDate | The GraduationDate column |

If the student doesn’t have a value in the GraduationDate column, the Status column should contain a value of UNDERGRAD. Otherwise, it should contain a value of GRADUATED.

Sort the final result set by EnrollmentDate.

Please paste a screenshot of your SQL code and result in the boxes below.

|  |
| --- |
| *Code* |
| *Result* |

1. Write a SELECT statement that returns these two columns:

|  |  |
| --- | --- |
| DepartmentName | The DepartmentName column from the Departments table |
| CourseID | The CourseID column from the Courses table |

Return one row for each Department with no courses. (Hint: Use an outer join and only return rows where the CourseID column contains a null value.)

Please paste a screenshot of your SQL code and result in the boxes below.

|  |
| --- |
| *Code* |
| *Result* |

1. Write a SELECT statement that returns these columns:

|  |  |
| --- | --- |
| InstructorDept | The DepartmentName column from the Departments table for a related instructor |
| LastName | The LastName column from the Instructors table |
| FirstName | The FirstName column from the Instructors table |
| CourseDescription | The CourseDescription column from the Courses table |
| CourseDept | The DepartmentName column from the Departments table for a related instructor |

Return one row for each course that’s in a different department than the department of the instructor assigned to teach that course. (*Hint: You will need to join the* Departments *table to both the* Instructors *table and the* Courses *table, which will require you to use table aliases to distinguish the two tables.*)

Please paste a screenshot of your SQL code and result in the boxes below.

|  |
| --- |
| *Code* |
| *Result* |