CIS 182 – SQL Fundamentals – Winter 2024

W9 Exercises: Functions

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

To test whether a table has been modified correctly as you do these exercises, you can write and run an appropriate SELECT statement.

Exercises

1. Write a SELECT statement that returns these columns from the Instructors table:

* The AnnualSalary column
* A column named MonthlySalary that is the result of dividing the AnnualSalary column by 12
* A column named MonthlySalaryRounded that calculates the monthly salary and then uses the ROUND function to round the result to 2 decimal places

Please copy your SQL statement as text and paste it in the box below

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| --- |
| *SQL text* |

Please paste a screenshot of the result of your query in the box below.

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| --- |
| *Result screenshot* |

1. Write a SELECT statement that returns these columns from the Students table:

* The EnrollmentDate column
* A column that returns the four-digit year that’s stored in the EnrollmentDate column
* A column that returns only the day of the month that’s stored in the EnrollmentDate column
* A column that returns the result from adding four years to the EnrollmentDate column; use the CAST function so only the year is returned

Please copy your SQL statement as text and paste it in the box below

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| *SQL text* |

Please paste a screenshot of the result of your query in the box below.

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| *Result screenshot* |

1. Write a SELECT statement that returns these columns:

* The DepartmentName column from the Departments table
* The CourseNumber column from the Courses table
* The FirstName column from the Instructors table
* The LastName column from the Instructors table
* Add a column that includes the first three characters from the DepartmentName column in uppercase, concatenated with the CourseNumber column, the first character of the FirstName column if this column isn’t null or an empty string otherwise, and the LastName column. For this to work, you will need to cast the CourseNumber column to a character column.

Please copy your SQL statement as text and paste it in the box below

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| *SQL text* |

Please paste a screenshot of the result of your query in the box below.

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| *Result screenshot* |

1. Write a SELECT statement that returns these columns from the Students table:

* The FirstName column
* The LastName column
* The EnrollmentDate column
* The GraduationDate column
* A column that shows the number of months between the EnrollmentDate and GraduationDate columns
* Return one row for each student who has graduated.

Please copy your SQL statement as text and paste it in the box below

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| *SQL text* |

Please paste a screenshot of the result of your query in the box below.

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| *Result screenshot* |

1. Write a CTE with a SELECT statement that returns one row for each student that has courses with these columns:

* The StudentID column from the Students table
* The sum of the course units in the Courses table

Write a SELECT statement that uses this CTE to return these columns for each student:

* The StudentID column from the CTE
* The sum of course units from the CTE
* An indication of whether the student is fulltime or parttime (*Hint: To determine whether a student is fulltime, use the IIF function to test if the sum of course units is greater than 9*.)
* The total tuition (*Hint: To calculate the tuition, use the IIF function to determine whether a student is fulltime or partime. Then, multiply the sum of course units by the PerUnitCost column in the Tuition table and add that to either the FullTimeCost or PartTimeCost column in the Tuition table. To do that, use a cross join to join the CTE and the Tution tables. This makes the columns from the Tuition table available to the SELECT statement.*)

Please copy your SQL statement as text and paste it in the box below

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| --- |
| *SQL text* |

Please paste a screenshot of the result of your query in the box below.

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| *Result screenshot* |