

SQL Assignment: Scalar Functions

February 10, 2025

1 Employees Table

EmployeeID	Name	JobTitle	DepartmentID	Salary
1	Alice	Software Engineer	201	70000
2	Bob	Data Scientist	202	75000
3	Charlie	Engineering Manager	201	95000
4	David	System Analyst	203	72000
5	Eve	Cybersecurity Analyst	204	69000
6	Frank	AI Engineer	202	80000
7	Grace	Cloud Engineer	201	73000
8	Hank	DevOps Engineer	205	77000
9	Ivy	Network Engineer	NULL	68000
10	Jake	Embedded Systems Engineer	203	71000

2 SQL Questions

Part 1: String Functions

1. Convert all employee names to uppercase. (**UPPER()**)
2. Convert all job titles to lowercase. (**LOWER()**)
3. Retrieve the first three characters of each employee's name. (**LEFT()**)
4. Retrieve the last three characters of each employee's name. (**RIGHT()**)
5. Find the total length of each employee's name. (**LENGTH()**)
6. Remove leading and trailing spaces from employee names. (**TRIM()**)
7. Replace "Engineer" with "Developer" in job titles. (**REPLACE()**)
8. Concatenate employee names with their job titles. (**CONCAT()**)
9. Extract a substring from employee names starting at position 2 and length 4. (**SUBSTRING()**)

Part 2: Numeric Functions

1. Round salaries to the nearest thousand. (**ROUND()**)

2. Find the absolute difference between the highest and lowest salary. (**ABS()**)
3. Retrieve the square root of the highest salary. (**SQRT()**)
4. Generate a random number between 1 and 100. (**RAND()**)
5. Find the ceiling value of an employee's salary. (**CEIL()**)
6. Find the floor value of an employee's salary. (**FLOOR()**)
7. Compute the power of an employee's salary raised to 2. (**POWER()**)
8. Retrieve the remainder when the salary is divided by 5000. (**MOD()**)
9. Return the logarithm of the highest salary. (**LOG()**)

Part 3: Date Functions

1. Retrieve the current date. (**CURRENT DATE()**)
2. Retrieve the current time. (**CURRENT TIME()**)
3. Find the day of the week for today's date. (**DAYNAME()**)
4. Extract the year from today's date. (**YEAR()**)
5. Extract the month from today's date. (**MONTH()**)
6. Retrieve the difference in days between two dates. (**DATEDIFF()**)
7. Add 10 days to today's date. (**DATE ADD()**)
8. Subtract 5 months from today's date. (**DATE SUB()**)