

# CS6.201 Introduction to Software Systems

## LAB 3 Activity [SQL]

### Instructions

- Each question carries 1 mark i.e. Overall Marks is 20
- The evaluation is binary grading i.e. if the output is correct - you get a mark else you get no mark.
- Total Duration: 1 hour 30 minutes.

### SQL Tasks [20 Marks]

- Q1. Retrieve all employees' first names, last names, and salaries.
- Q2. Retrieve distinct department names from the `DEPARTMENT` table.
- Q3. Retrieve all employees' first names, last names, and salaries whose salary is greater than 30,000.
- Q4. Find employees' Fname and Lname with first names starting with 'J'.
- Q5. List all projects' name and number located in Houston.
- Q6. List the department's Number with more than two employees.
- Q7. Retrieve the total salary paid in each department (print Department Number with Total salary paid).
- Q8. Count the number of employees in each department.
- Q9. Retrieve employees' Essn who work on more than one project.
- Q10. Retrieve the highest salary in each department (print Department number with highest salary).
- Q11. Retrieve employees along with their department names and project names.
- Q12. Retrieve employees' Fname and Lname and their supervisors' names.
- Q13. Retrieve employees' Fname and Lname who earn more than the average salary.
- Q14. Retrieve the employee(s) with the second highest salary.
- Q15. Retrieve department names and their managers' names.

- Q16.** Retrieve employees' Fname and Lname who work in the same department as 'John Smith'.
- Q17.** Retrieve the names of all employees who work in the department that has the employee with the highest salary among all employees.
- Q18.** Create a view that has the department name, manager name, and manager salary for every department.
- Q19.** Find employees' Fname and Lname who work on the same project as 'Franklin Wong'.
- Q20.** Retrieve the manager's Fname and Lname of the department that has the highest number of employees.

## Submission Format

Submit a zip file named as <rollnumber>.zip On **moodle** and In **github** submit directory, containing solutions in the following directory structure:

```
1 <src>/
2 |-- Q1-query.sql
3 |-- Q1-output.csv
4 |-- Q2-query.sql
5 |-- Q2-output.csv
6 |-- Q3-query.sql
7 |-- Q3-output.csv
8 |-- Q4-query.sql
9 |-- Q4-output.csv
10 |-- Q5-query.sql
11 |-- Q5-output.csv
12 |-- Q6-query.sql
13 |-- Q6-output.csv
14 |-- Q7-query.sql
15 |-- Q7-output.csv
16 |-- Q8-query.sql
17 |-- Q8-output.csv
18 |-- Q9-query.sql
19 |-- Q9-output.csv
20 |-- Q10-query.sql
21 |-- Q10-output.csv
22 |-- Q11-query.sql
23 |-- Q11-output.csv
24 |-- Q12-query.sql
25 |-- Q12-output.csv
26 |-- Q13-query.sql
27 |-- Q13-output.csv
28 |-- Q14-query.sql
29 |-- Q14-output.csv
30 |-- Q15-query.sql
31 |-- Q15-output.csv
32 |-- Q16-query.sql
33 |-- Q16-output.csv
34 |-- Q17-query.sql
35 |-- Q17-output.csv
36 |-- Q18-query.sql
```

```
37 |-- Q19-query.sql
38 |-- Q19-output.csv
39 |-- Q20-query.sql
40 |-- Q20-output.csv
```