Clear screenshots of successful run of SQL query and output is required in a single file. Zero will be assigned otherwise. You may use SQL developer or SQL plus. If you want to be independent of mySeneca apps or Seneca Oracle instance, install Oracle XE in your laptop and use SQL plus. Include your answer to Question 6,7,8 in the same file.

1. Display the department name, city, street address and postal code for all

departments. Use the JOIN and USING form of syntax.

Sort the output by department name descending.

A screenshot of a computer

Description automatically generated

2. Display full name of the employees, their hire date and salary together with

their department name, but only for departments which names start with **A** or **S**. Full name should be in format of :

**First / Last.** Use the JOIN and ON form of syntax.

Sort the output by department name and then by last name.

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Description automatically generated

3. Display full name of the manager of each department in provinces Ontario,

California and Washington plus department name, city, postal code and province name. Full name should be in format of :

**Last, First.** Use the JOIN and ON form of syntax.

Sort the output by city and then by department name.

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Description automatically generated

4. Display the department name and Highest, Lowest and Average pay per each

department. Name these results *High, Low* and *Avg.*

Use JOIN and ON form of the syntax.

Sort the output so that department with highest average salary are shown first.

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5. Display the employee last name and employee number along with their

manager’s last name and manager number. Label the columns Employee,

Emp#, Manager, and Mgr#, respectively.

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6. What is the difference between join and subquery?

-There are some differences between “JOIN” and “SUBQUERY”. In SQL, both subquery and join are used to put together different tables regarding aimed purposes.

* JOINS:

JOIN is used to combine data across existing tables in order to create aimed data. This function is used to combine data for a single result. There are different types of join in SQL statements. INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL OUTER JOIN, CROSS JOIN. The JOIN feature is used with an ON clause that specifies matched data throughout the tables.

* SUBQUERIES:

The definition of subqueries is queries within another query, so it is a kind of nested structure in SQL. This structure might consist of SELECT, FROM, WHERE, GROUP BY, ORDER BY. This structure can be used effectively in non-complicated queries in SQL. Basically, subqueries can be used to perform the main queries’ condition via other subqueries, but “JOIN” is beneficial to retrieve different related data across multiple tables.

7. Explain what is wrong with the following statement?

Select employee\_id, last\_name from employees where salary = (select max(salary) from employees group by department\_id)

This query desires to display the highest salaries in each department because there is a GROUP BY department\_id content that aims to get data according to each department, but in this query has some missing parts in terms of the WHERE section. In the main WHERE of query expects just one result after “=”, that’s why WHERE of subquery should return a single data, so WHERE department\_id = employees.department\_id ) can be used to retrieve single data for each department.

The correct query is :

“SELECT e.employee\_id, e.last\_name

FROM employees e

WHERE e.salary = (

SELECT MAX(salary)

FROM employees

WHERE department\_id = e.department\_id

)”

8. What is the difference between IN and ANY operator? Where would you use them? How about NOT IN and ALL operators?

All operators use filter the values within the group of data, after returning the desired query in SQL.

* IN Operator: This operator is used whether this data is in the aimed group of data or not.
* NOT IN Operator: This operator is used if the data is not included in the group of data.
* ANY Operator: This operator is used if the data
* ALL Operator: This operator is used with a subquery and returns actual if any unmarried end result again by using the subquery satisfies the assessment operator.