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4. Find the highest, lowest, sum, and average salary of all employees. Label the columns Maximum, Minimum, Sum, and Average, respectively. Round your results to the nearest whole number

```

1 SELECT
2     ROUND(MAX(salary)) AS Maximum,
3     ROUND(MIN(salary)) AS Minimum,
4     ROUND(SUM(salary)) AS Sum,
5     ROUND(AVG(salary)) AS Average
6 FROM employees;
7

```

MAXIMUM	MINIMUM	SUM	AVERAGE
60000	4000	224450	14963

5. Modify the above query to display the minimum, maximum, sum, and average salary for each job type.

```

1 SELECT
2     job_id,
3     ROUND(MIN(salary)) AS Minimum,
4     ROUND(MAX(salary)) AS Maximum,
5     ROUND(SUM(salary)) AS Sum,
6     ROUND(AVG(salary)) AS Average
7 FROM employees
8 GROUP BY job_id;
9

```

JOB_ID	MINIMUM	MAXIMUM	SUM	AVERAGE
HR_REP	6000	9000	15000	7500
AD_VP	17000	17000	17000	17000
ST_CLERK	10000	10000	10000	10000
AD_ASST	4000	4250	12450	4150
SA_MAN	12000	12000	24000	12000
IT_PROG	7500	60000	67500	33750
SA_REP	7500	55000	78500	19625

6. Write a query to display the number of people with the same job. Generalize the query so that the user in the HR department is prompted for a job title.

```

1 SELECT
2     job_id,
3     COUNT(*) AS Number_of_People
4 FROM employees
5 WHERE UPPER(job_id) = UPPER(:job_title)
6 GROUP BY job_id;
7

```

JOB_ID	NUMBER_OF_PEOPLE
IT_PROG	2

7. Determine the number of managers without listing them. Label the column Number of Managers. Hint: Use the MANAGER_ID column to determine the number of managers.

1	SELECT
2	COUNT(DISTINCT manager_id) AS Number_of_Managers
3	FROM employees
4	WHERE manager_id IS NOT NULL;
5	

Results	Explain	Describe	Saved SQL	History
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NUMBER_OF MANAGERS
6

8. Find the difference between the highest and lowest salaries. Label the column DIFFERENCE.

1	SELECT
2	(MAX(salary) - MIN(salary)) AS Difference
3	FROM employees;
4	

Results	Explain	Describe	Saved SQL	History
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DIFFERENCE
56000

9. Create a report to display the manager number and the salary of the lowest-paid employee for that manager. Exclude anyone whose manager is not known. Exclude any groups where the minimum salary is \$6,000 or less. Sort the output in descending order of salary.

1	SELECT
2	manager_id,
3	MIN(salary) AS Lowest_Salary
4	FROM employees
5	WHERE manager_id IS NOT NULL
6	GROUP BY manager_id
7	HAVING MIN(salary) > 6000
8	ORDER BY Lowest_Salary DESC;
9	

Results	Explain	Describe	Saved SQL	History
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MANAGER_ID	LOWEST_SALARY
101	17000
105	12000
1000	10000
112	8000

10. Create a query to display the total number of employees and, of that total, the number of employees hired in 1995, 1996, 1997, and 1998. Create appropriate column headings.

1	SELECT
2	COUNT(*) AS Total_Employees,
3	SUM(CASE WHEN EXTRACT(YEAR FROM hire_date) = 1995 THEN 1 ELSE 0 END) AS Hired_1995,
4	SUM(CASE WHEN EXTRACT(YEAR FROM hire_date) = 1996 THEN 1 ELSE 0 END) AS Hired_1996,
5	SUM(CASE WHEN EXTRACT(YEAR FROM hire_date) = 1997 THEN 1 ELSE 0 END) AS Hired_1997,
6	SUM(CASE WHEN EXTRACT(YEAR FROM hire_date) = 1998 THEN 1 ELSE 0 END) AS Hired_1998
7	FROM employees;
8	

Results	Explain	Describe	Saved SQL	History
TOTAL_EMPLOYEES	HIRED_1995	HIRED_1996	HIRED_1997	HIRED_1998
15	0	0	0	0

11. Create a matrix query to display the job, the salary for that job based on department number, and the total salary for that job, for departments 20, 50, 80, and 90, giving each column an appropriate heading.

```
1 SELECT
2     job_id,
3     SUM(CASE WHEN department_id = 20 THEN salary ELSE 0 END) AS Dept20,
4     SUM(CASE WHEN department_id = 50 THEN salary ELSE 0 END) AS Dept50,
5     SUM(CASE WHEN department_id = 80 THEN salary ELSE 0 END) AS Dept80,
6     SUM(CASE WHEN department_id = 90 THEN salary ELSE 0 END) AS Dept90,
7     SUM(salary) AS Total_Salary
8 FROM employees
9 WHERE department_id IN (20, 50, 80, 90)
10 GROUP BY job_id;
11
```

Results

ExplainDescribeSaved SQLHistory

JOB_ID	DEPT20	DEPT50	DEPT80	DEPT90	TOTAL_SALARY
HR_REP	15000	0	0	0	15000
ST_CLERK	0	10000	0	0	10000
SA_MAN	0	0	24000	0	24000
IT_PROG	7500	0	0	0	7500
SA_REP	0	0	23500	0	23500

12. Write a query to display each department's name, location, number of employees, and the average salary for all the employees in that department. Label the column name-Location, Number of people, and salary respectively. Round the average salary to two decimal places. i need sql code for these questions

1 SELECT
2 d.department_name || ' - ' || l.city AS "Department-Location",
3 COUNT(e.employee_id) AS "Number of People",
4 ROUND(AVG(e.salary), 2) AS "Average Salary"
5 FROM employees e
6 JOIN departments d ON e.department_id = d.department_id
7 JOIN locations l ON d.location_id = l.location_id
8 GROUP BY d.department_name, l.city;
9

Results Explain Describe Saved SQL History

Department-Location	Number of People	Average Salary
Sales - Toronto	5	9500