Lab Exercise 5: Reporting Aggregated Data Using the Group Functions

By using HR Schema in Oracle Express Edition, answer the following SQL questions.

1. Find the maximum and minimum salary for employees in department 90. (1 Mark)

```
SELECT MIN(salary), MAX(salary), SUM(salary)
FROM employees
WHERE department_id= 90;
```

Query Result

SQL | All Rows Fetched: 1 in 0.076 seconds

	MIN(SALARY)	MAX(SALARY)	SUM(SALARY)
1	17000	24000	58000

2. Find the average and total salary for each department. Round the result to 2 decimal points. (1 Mark)

```
SELECT department_id,ROUND(AVG(salary),2), ROUND(SUM(salary),2)
FROM employees
GROUP BY department_id;
```

Query Result

SQL | All Rows Fetched: 12 in 0.004 seconds

	DEPARTMENT_ID	ROUND(AVG(SALARY),2)	ROUND(SUM(SALARY),2)
1	100	8601.33	51608
2	30	4150	24900
3	(null)	7000	7000
4	90	19333.33	58000
5	20	9500	19000
6	70	10000	10000
7	110	10154	20308
8	50	3475.56	156400
9	80	8955.88	304500
10	40	6500	6500
11	60	5760	28800
12	10	4400	4400

3. Find the total ST_CLERK that are hired after 2005. (1 Mark)

```
SELECT count(employee_id)
FROM employees
where job_id ='ST_CLERK' and hire_date <= '1-JAN-2006'
```

Query Result

SQL | All Rows Fetched: 1 in 0.005 seconds

	COUNT(EMPLOYEE_ID)
1	9

4. Find average commission received by the employees. Include the null value. (1 Mark)

```
SELECT avg(nvl(COMMISSION_PCT,0))
FROM employees
```

Query Result

SQL | All Rows Fetched: 1 in 0.002 seconds

	AVG(NVL(COMMISSION_PCT,0))
1	0.072897196261682242990654205607476635514

5. Find the total salary for each department. (1 Mark)

```
SELECT department_id, sum(salary)
FROM employees
group by department_id
```

Query Result

SQL | All Rows Fetched: 12 in 0.004 sec

	DEPARTMENT_ID	SUM(SALARY)
1	100	51608
2	30	24900
3	(null)	7000
4	90	58000
5	20	19000
6	70	10000
7	110	20308
8	50	156400
9	80	304500
10	40	6500
11	60	28800
12	10	4400

6. Find total number of employees that are hired in 2007 and 2009. (1 Mark)

```
SELECT count(employee_id)
FROM employees
where hire_date >= '1-JAN-2007' and hire_date <= '31-DEC-2009'
```

Query Result

SQL | All Rows Fetched: 1 in 0.001 seconds

	COUNT(EMPLOYEE_ID)
1	30

7. Find the maximum salary for job ST_CLERK and ST_MAN. (1 Mark)

```
SELECT max(salary)
FROM employees
where job_id='ST_CLERK'
```

ery Result

SQL | All Rows Fetched

	MAX(SALARY)
1	3600

```
SELECT max(salary)
FROM employees
where job_id='ST_MAN'
```

Query Result

SQL | All Rows Fetch

	MAX(SALARY)
1	8200

8. Find the minimum for the average salary for each department. (1 Mark)

```
SELECT department_id, round(avg(salary),2)
FROM employees
group by department_id
order by 2
```

ript Output x | Query Result x

SQL | All Rows Fetched: 12 in 0.002 seconds

	DEPARTMENT_ID	ROUND(AVG(SALARY),2)
1	50	3475.56
2	30	4150
3	10	4400
4	60	5760
5	40	6500
6	(null)	7000
7	100	8601.33
8	80	8955.88
9	20	9500
10	70	10000
11	110	10154
12	90	19333.33

minimum salary is 3475.56

9. Find the employees that are having salary lower than the average salary. (1 mark)

```
SELECT employee_id, first_name, salary
FROM employees
WHERE salary < ALL(
SELECT ROUND(avg(salary),2)
FROM employees);
```

Script Output x | Query Result x

SQL | Fetched 50 rows in 0.003 seconds

	EMPLOYEE_ID	FIRST_NAME	SALARY
1	104	Bruce	6000
2	105	David	4800
3	106	Valli	4800
4	107	Diana	4200
5	115	Alexander	3100
6	116	Shelli	2900
7	117	Sigal	2800
8	118	Guy	2600
9	119	Karen	2500
10	124	Kevin	5800

10. What is the progress of your project? (1 mark)