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TE IT

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a) List the number of employees and average salary for employees in department 20.

```
Database changed
mysql> SELECT COUNT(*),AVG(emp_sales) FROM emp WHERE emp_department_no = 20;
+----------+-----------------+
| COUNT(*) | AVG(emp_sales) |
+----------+-----------------+
|        5 |      2175.0000 |
+----------+-----------------+
1 row in set (0.11 sec)
```

b) List name, salary and PF amount of all employees. (PF is calculated as 10% of basic salary)

```
+----------+-----------------+
1 row in set (0.11 sec)

mysql> SELECT emp_name,emp_sales,emp_sales*0.1 AS PF FROM emp;
+----------+-----------+-------+
| emp_name | emp_sales | PF    |
+----------+-----------+-------+
| Smith    |       800 |  80.0 |
| Allen    |      1600 | 160.0 |
| Ward     |      1250 | 125.0 |
| Jones    |      2975 | 297.5 |
| Martin   |      1250 | 125.0 |
| Blake    |      2850 | 285.0 |
| Clark    |      2450 | 245.0 |
| Scott    |      3000 | 300.0 |
| King     |      5000 | 500.0 |
| Turner   |      1500 | 150.0 |
| Adams    |      1100 | 110.0 |
| James    |       950 |  95.0 |
| Ford     |      3000 | 300.0 |
| Miller   |      1300 | 130.0 |
+----------+-----------+-------+
14 rows in set (0.05 sec)
```

c) List the maximum, minimum and average salary in the company.

```
mysql> SELECT MAX(emp_sales),MIN(emp_sales),AVG(emp_sales) FROM emp;
+----------------+----------------+----------------+
| MAX(emp_sales) | MIN(emp_sales) | AVG(emp_sales) |
+----------------+----------------+----------------+
|           5000 |            800 |      2073.2143 |
+----------------+----------------+----------------+
1 row in set (0.06 sec)
```

d) List the employee details in the ascending order of their basic salary.

```
mysql> SELECT * FROM emp ORDER BY emp_sales;
+--------+----------+-----------------+------------+----------------+-----------+----------------+--------------------+
| emp_id | emp_name | emp_designation | manager_id | emp_hired_date | emp_sales | emp_commission | emp_department_no |
+--------+----------+-----------------+------------+----------------+-----------+----------------+--------------------+
|   7369 | Smith    | Clerk           |       7902 | 1980-12-17     |       800 |           NULL |                 20 |
|   7900 | James    | Clerk           |       7698 | 1981-12-03     |       950 |           NULL |                 30 |
|   7876 | Adams    | Clerk           |       7788 | 1983-01-12     |      1100 |           NULL |                 20 |
|   7521 | Ward     | Salesman        |       7698 | 1981-02-22     |      1250 |            500 |                 30 |
|   7654 | Martin   | Salesman        |       7698 | 1981-09-28     |      1250 |           1400 |                 30 |
|   7934 | Miller   | Clerk           |       7782 | 1982-01-23     |      1300 |           NULL |                 10 |
|   7844 | Turner   | Salesman        |       7698 | 1981-09-08     |      1500 |              0 |                 30 |
|   7499 | Allen    | Salesman        |       7698 | 1981-02-20     |      1600 |            300 |                 30 |
|   7782 | Clark    | Manager         |       7839 | 1981-06-09     |      2450 |           NULL |                 10 |
|   7698 | Blake    | Manager         |       7839 | 1981-05-01     |      2850 |           NULL |                 30 |
|   7566 | Jones    | Manager         |       7839 | 1981-04-02     |      2975 |           NULL |                 20 |
|   7788 | Scott    | Analyst         |       7566 | 1982-12-09     |      3000 |           NULL |                 20 |
|   7902 | Ford     | Analyst         |       7566 | 1981-12-04     |      3000 |           NULL |                 20 |
|   7839 | King     | President       |       NULL | 1981-11-17     |      5000 |           NULL |                 10 |
+--------+----------+-----------------+------------+----------------+-----------+----------------+--------------------+
14 rows in set (0.05 sec)
```

e) List the employee name and hire date in the descending order of the hire date.

```
mysql> SELECT emp_name,emp_hired_date FROM emp ORDER BY emp_hired_date DESC;
+----------+----------------+
| emp_name | emp_hired_date |
+----------+----------------+
| Adams    | 1983-01-12     |
| Scott    | 1982-12-09     |
| Miller   | 1982-01-23     |
| Ford     | 1981-12-04     |
| James    | 1981-12-03     |
| King     | 1981-11-17     |
| Martin   | 1981-09-28     |
| Turner   | 1981-09-08     |
| Clark    | 1981-06-09     |
| Blake    | 1981-05-01     |
| Jones    | 1981-04-02     |
| Ward     | 1981-02-22     |
| Allen    | 1981-02-20     |
| Smith    | 1980-12-17     |
+----------+----------------+
14 rows in set (0.00 sec)
```

f) List employee name, salary, PF, HRA, DA and gross; order the results in the ascending order of gross. HRA is 50% of the salary and DA is 30% of the salary.

```
mysql> SELECT emp_name,emp_sales,emp_sales*0.1 AS PF,emp_sales*0.5 AS HRA,emp_sales*0.3 AS DA,
    -> emp_sales+(emp_sales*0.1)+(emp_sales*0.5)+(emp_sales*0.3) AS gross FROM
    -> emp ORDER BY gross;
+----------+-----------+-------+--------+--------+--------+
| emp_name | emp_sales | PF    | HRA    | DA     | gross  |
+----------+-----------+-------+--------+--------+--------+
| Smith    |       800 |  80.0 |  400.0 |  240.0 | 1520.0 |
| James    |       950 |  95.0 |  475.0 |  285.0 | 1805.0 |
| Adams    |      1100 | 110.0 |  550.0 |  330.0 | 2090.0 |
| Ward     |      1250 | 125.0 |  625.0 |  375.0 | 2375.0 |
| Martin   |      1250 | 125.0 |  625.0 |  375.0 | 2375.0 |
| Miller   |      1300 | 130.0 |  650.0 |  390.0 | 2470.0 |
| Turner   |      1500 | 150.0 |  750.0 |  450.0 | 2850.0 |
| Allen    |      1600 | 160.0 |  800.0 |  480.0 | 3040.0 |
| Clark    |      2450 | 245.0 | 1225.0 |  735.0 | 4655.0 |
| Blake    |      2850 | 285.0 | 1425.0 |  855.0 | 5415.0 |
| Jones    |      2975 | 297.5 | 1487.5 |  892.5 | 5652.5 |
| Scott    |      3000 | 300.0 | 1500.0 |  900.0 | 5700.0 |
| Ford     |      3000 | 300.0 | 1500.0 |  900.0 | 5700.0 |
| King     |      5000 | 500.0 | 2500.0 | 1500.0 | 9500.0 |
+----------+-----------+-------+--------+--------+--------+
14 rows in set (0.00 sec)
```

g) List the department numbers and number of employees in each department.

```
mysql> SELECT emp_department_no,COUNT(*) FROM emp GROUP BY emp_department_no;
+--------------------+----------+
| emp_department_no | COUNT(*) |
+--------------------+----------+
|                 20 |        5 |
|                 30 |        6 |
|                 10 |        3 |
+--------------------+----------+
3 rows in set (0.03 sec)
```

h) List the department number and total salary payable in each department.

```
mysql> SELECT emp_department_no,SUM(emp_sales) FROM emp GROUP BY emp_department_no;
+-------------------+----------------+
| emp_department_no | SUM(emp_sales) |
+-------------------+----------------+
|                20 |          10875 |
|                30 |           9400 |
|                10 |           8750 |
+-------------------+----------------+
3 rows in set (0.00 sec)
```

i) List the jobs and number of employees in each job. The result should be in the descending order of the number of employees.

```
mysql> SELECT emp_designation,COUNT(*) FROM emp GROUP BY emp_designation ORDER BY COUNT(*) DESC;
+-----------------+----------+
| emp_designation | COUNT(*) |
+-----------------+----------+
| Clerk           |        4 |
| Salesman        |        4 |
| Manager         |        3 |
| Analyst         |        2 |
| President       |        1 |
+-----------------+----------+
5 rows in set (0.00 sec)
```

j) List the total salary, maximum and minimum salary and average salary of the employees jobwise.

```
mysql> SELECT SUM(emp_sales),MAX(emp_sales),MIN(emp_sales),AVG(emp_sales),emp_designation FROM emp GROUP BY emp_designat
ion;
+----------------+----------------+----------------+----------------+-----------------+
| SUM(emp_sales) | MAX(emp_sales) | MIN(emp_sales) | AVG(emp_sales) | emp_designation |
+----------------+----------------+----------------+----------------+-----------------+
|           4150 |           1300 |            800 |      1037.5000 | Clerk           |
|           5600 |           1600 |           1250 |      1400.0000 | Salesman        |
|           8275 |           2975 |           2450 |      2758.3333 | Manager         |
|           6000 |           3000 |           3000 |      3000.0000 | Analyst         |
|           5000 |           5000 |           5000 |      5000.0000 | President       |
+----------------+----------------+----------------+----------------+-----------------+
5 rows in set (0.09 sec)
```

k) List the total salary, maximum and minimum salary and average salary of the employees, for department 20.

```
mysql> SELECT SUM(emp_sales),MAX(emp_sales),MIN(emp_sales),AVG(emp_sales) FROM emp WHERE emp_department_no = 20;
+----------------+----------------+----------------+----------------+
| SUM(emp_sales) | MAX(emp_sales) | MIN(emp_sales) | AVG(emp_sales) |
+----------------+----------------+----------------+----------------+
|          10875 |           3000 |            800 |      2175.0000 |
+----------------+----------------+----------------+----------------+
1 row in set (0.00 sec)
```

l) List the maximum salary paid to a salesman.

```
mysql> SELECT MAX(emp_sales) FROM emp WHERE emp_designation = "salesman";
+----------------+
| MAX(emp_sales) |
+----------------+
|           1600 |
+----------------+
1 row in set (0.00 sec)
```

m) List the number of employees working with the company.

```
mysql> SELECT COUNT(*) FROM emp;
+----------+
| COUNT(*) |
+----------+
|       14 |
+----------+
1 row in set (0.13 sec)
```

n) List the number of designations available in the EMP table.

```
mysql> SELECT COUNT(DISTINCT emp_designation) FROM emp;
+---------------------------------+
| COUNT(DISTINCT emp_designation) |
+---------------------------------+
|                               5 |
+---------------------------------+
1 row in set (0.00 sec)
```

o) List the total salaries paid to the employees.

```
mysql> SELECT SUM(emp_sales) FROM emp;
+----------------+
| SUM(emp_sales) |
+----------------+
|          29025 |
+----------------+
1 row in set (0.00 sec)
```