

SECTION 26

Task 3

Compare the average salary of female versus male employees in the entire company until year 2002, and add a filter allowing you to see that per each department.

Solution:

Observing the relational schema, we know what field we need to get our final result. These include gender from t_employees, salary from t_salaries, dept_name from t_departments, and from_date from t_dept_emp. We need to join all these tables and group by three columns (gender, calendar year and department number) which is followed by having condition ≥ 2002 . Here is the code:

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

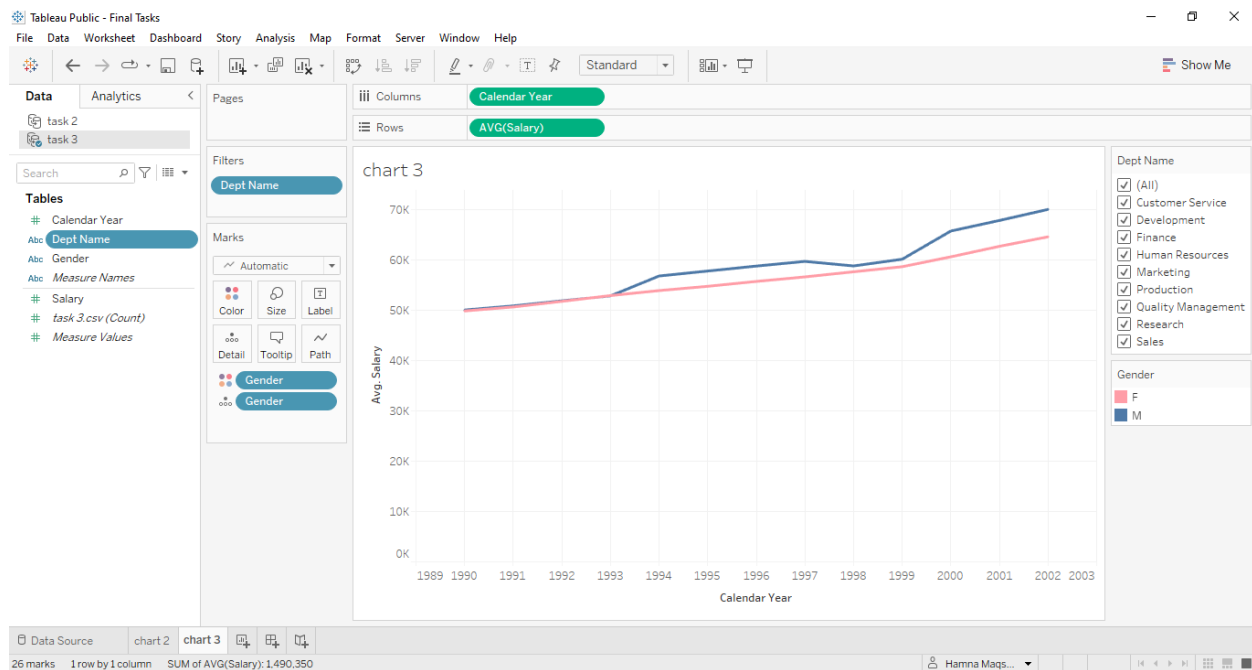
```
35 SELECT e.gender, d.dept_name,
36        ROUND(AVG(s.salary), 2) AS salary,
37        YEAR(s.from_date) AS calendar_year
38 FROM t_salaries s
39 JOIN t_employees e ON s.emp_no = e.emp_no
40 JOIN t_dept_emp de ON de.emp_no = e.emp_no
41 JOIN t_departments d ON d.dept_no = de.dept_no
42 GROUP BY d.dept_no, e.gender, calendar_year
43 HAVING calendar_year <= 2002
44 ORDER BY d.dept_no;
```

The Results window shows the following data:

gender	dept_name	salary	calendar_year
M	Marketing	58895.85	1990
M	Marketing	59232.75	1991
M	Marketing	59743.08	1992
M	Marketing	60436.85	1993
M	Marketing	64547.55	1994
M	Marketing	65377.05	1995
M	Marketing	66467.56	1996

The Output window shows the following messages:

#	Time	Action	Message	Duration / Fetch
79	13.02.21	SELECT e.gender, d.dept_name, ROUND(AVG(s.salary), 2) AS salary, YEAR(s.from_da...	234 row(s) returned	4.562 sec / 0.000 sec
80	13.02.26	SELECT e.gender, d.dept_name, ROUND(AVG(s.salary), 2) AS salary, YEAR(s.from_da...	234 row(s) returned	3.578 sec / 0.000 sec



By interpreting result, we can deduce that till 1993, both male and female employees have almost same avg salaries. And after that male employees were paid more by few hundred thousands of dollars.