

SECTION 25

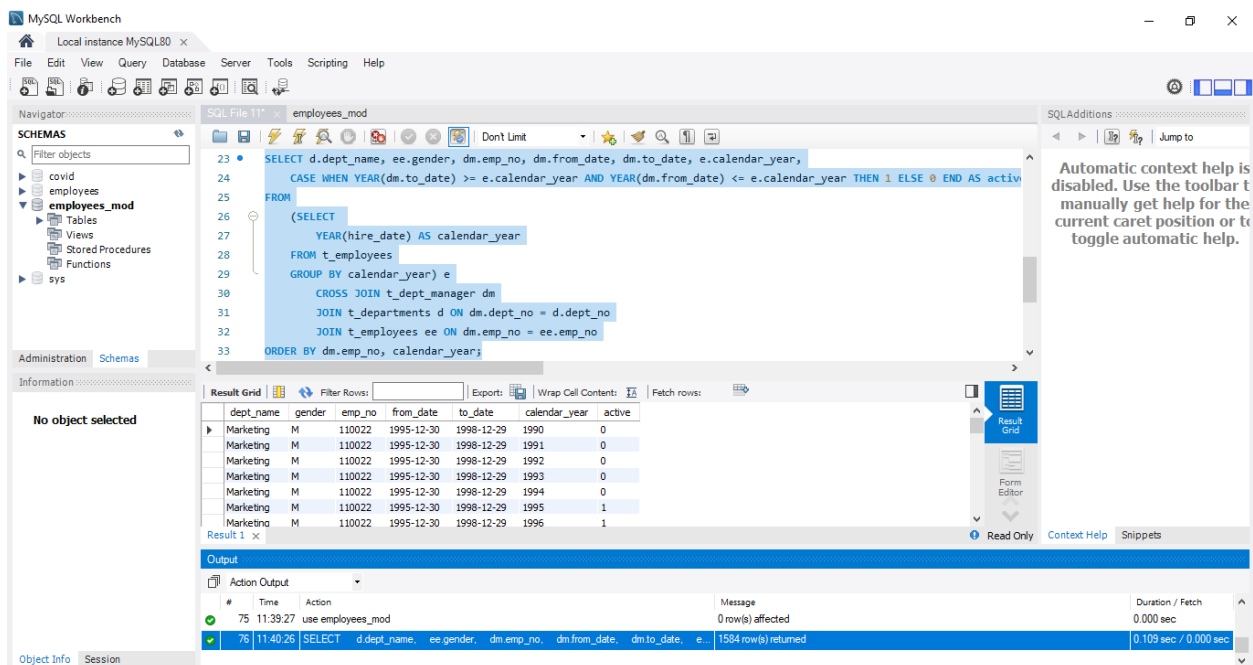
Task 2

Compare the number of male managers to the number of female managers from different departments for each year, starting from 1990.

Solution:

We will need the column department name from departments table and gender from employees table. We will be comparing our output based on these fields. The column employee number will give us the count of managers who have worked in a certain department.

Next, we will create a new column, namely active. This column will display 1 or 0. 1 if the manager has worked in a particular department in year X, and 0, otherwise.



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

```
23 SELECT d.dept_name, ee.gender, dm.emp_no, dm.from_date, dm.to_date, e.calendar_year,
24 CASE WHEN YEAR(dm.to_date) >= e.calendar_year AND YEAR(dm.from_date) <= e.calendar_year THEN 1 ELSE 0 END AS active
25 FROM
26 (SELECT
27 YEAR(hire_date) AS calendar_year
28 FROM t_employees
29 GROUP BY calendar_year) e
30 CROSS JOIN t_dept_manager dm
31 JOIN t_departments d ON dm.dept_no = d.dept_no
32 JOIN t_employees ee ON dm.emp_no = ee.emp_no
33 ORDER BY dm.emp_no, calendar_year;
```

The Results Grid shows the following data:

dept_name	gender	emp_no	from_date	to_date	calendar_year	active
Marketing	M	110022	1995-12-30	1998-12-29	1990	0
Marketing	M	110022	1995-12-30	1998-12-29	1991	0
Marketing	M	110022	1995-12-30	1998-12-29	1992	0
Marketing	M	110022	1995-12-30	1998-12-29	1993	0
Marketing	M	110022	1995-12-30	1998-12-29	1994	0
Marketing	M	110022	1995-12-30	1998-12-29	1995	1
Marketing	M	110022	1995-12-30	1998-12-29	1996	1

The Output pane shows the following message:

```
75 11:39:27 use employees_mod 0 row(s) affected 0.000 sec
76 11:40:26 SELECT d.dept_name, ee.gender, dm.emp_no, dm.from_date, dm.to_date, e... 1584 row(s) returned 0.109 sec / 0.000 sec
```

Now, we will visualize our output since we want to compare active male employees vs active female employees for each year in the company. We will do so in Tableau:

