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NAAC GRADE A+ ACCREDITED UNIVERSITY

Experiment No. 1.1

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Section/Group: MCD-1/ Grp B
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Subject Name: Advanced DBMS Lab
Subject Code: 22CAP-647

1. Aim/Overview of the practical:

Experiment 1.1:

Amber's conglomerate corporation just acquired some new companies. Each of the companies follows this hierarchy:

Given the table schemas below, write a query to print the company_code, founder name, total number of lead managers, total number of senior managers, total number of managers, and total number of employees. Order your output by ascending company_code.

Note:

The tables may contain duplicate records.

The company_code is string, so the sorting should not be numeric. For example, if the company_codes are C_1, C_2, and C_10, then the ascending company_codes will be C_1, C_10, and C_2.

Sample Input

Company Table:

company_code	founder
C1	Monika
C2	Samantha

Lead_Manager Table:

lead_manager_code	company_code
LM1	C1
LM2	C2

Senior_Manager Table:

senior_manager_code	lead_manager_code	company_code
SM1	LM1	C1
SM2	LM1	C1
SM3	LM2	C2

Manager Table:

manager_code	senior_manager_code	lead_manager_code	company_code
M1	SM1	LM1	C1
M2	SM3	LM2	C2
M3	SM3	LM2	C2

Employee Table:

employee_code	manager_code	senior_manager_code	lead_manager_code	company_code
E1	M1	SM1	LM1	C1
E2	M1	SM1	LM1	C1
E3	M2	SM3	LM2	C2
E4	M3	SM3	LM2	C2

Sample Output

C1 Monika 1 2 1 2
C2 Samantha 1 1 2 2

2. **Task to be done:**

3. **Algorithm/Flowchart:**

4. **Code for experiment/practical:**

Codes for Creating Tables & Inserting Values: -

```
create table Company(company_code varchar(10), founder varchar(30));
insert into Company values('C1', 'Rakesh');
insert into Company values('C2', 'Ambani');
insert into Company values('C3', 'Tata');

create table Lead_Manager(lead_manager_code varchar(10), company_code
varchar(10));
insert into Lead_Manager values('LM1', 'C1');
insert into Lead_Manager values('LM2', 'C2');
insert into Lead_Manager values('LM3', 'C3');


create table Senior_Manager(senior_manager_code varchar(10), lead_manager_code
varchar(10), company_code varchar(10));
insert into Senior_Manager values('SM1', 'LM1', 'C1');
insert into Senior_Manager values('SM2', 'LM1', 'C1');
insert into Senior_Manager values('SM3', 'LM2', 'C2');
insert into Senior_Manager values('SM4', 'LM3', 'C3');
insert into Senior_Manager values('SM5', 'LM3', 'C3');


create table Manager(manager_code varchar(10), senior_manager_code varchar(10),
lead_manager_code varchar(10), company_code varchar(10));
insert into Manager values('M1', 'SM1', 'LM1', 'C1');
insert into Manager values('M2', 'SM2', 'LM1', 'C1');
insert into Manager values('M3', 'SM3', 'LM2', 'C2');
```

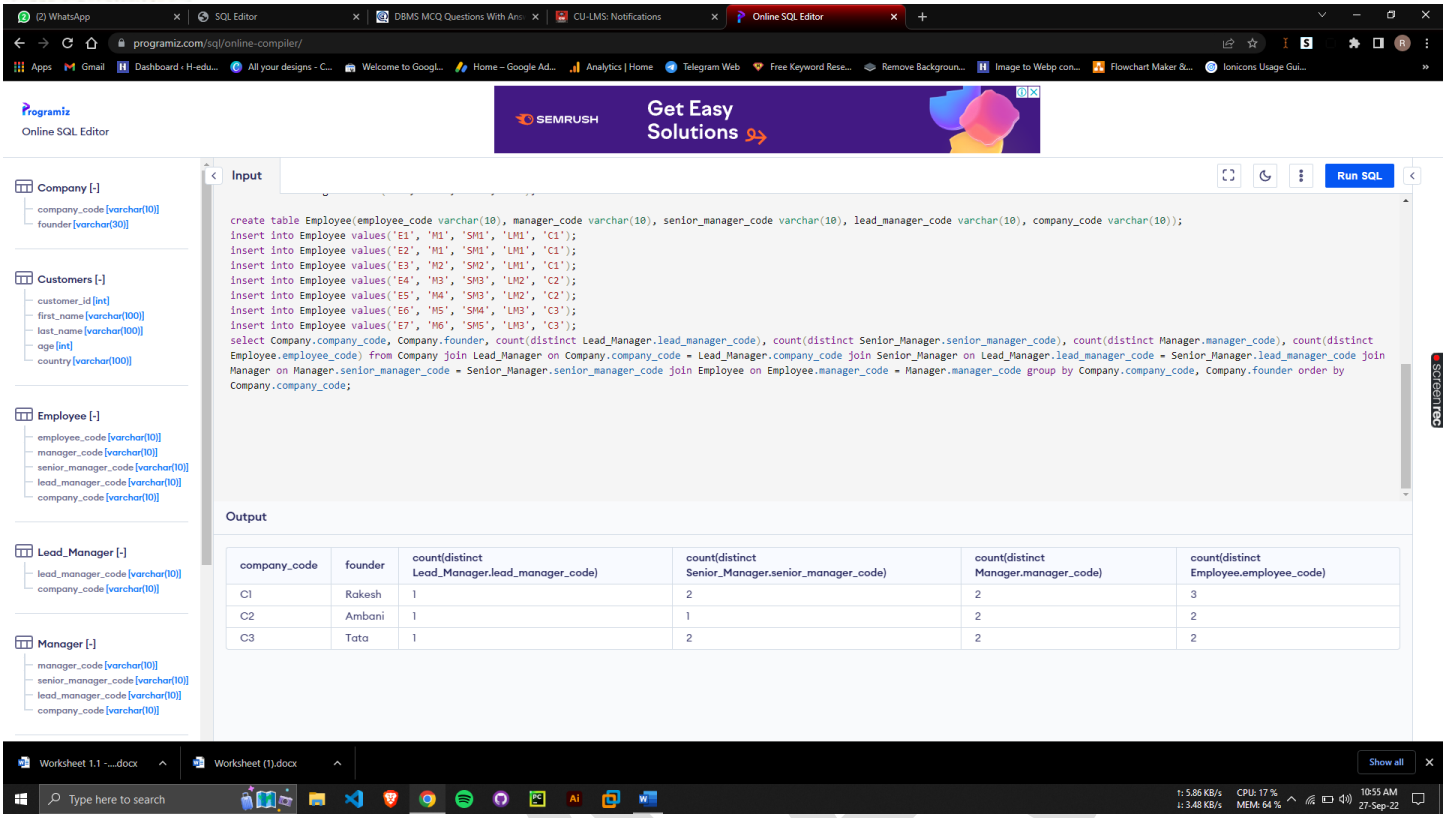
```
insert into Manager values('M4', 'SM3', 'LM2', 'C2');
insert into Manager values('M5', 'SM4', 'LM3', 'C3');
insert into Manager values('M6', 'SM5', 'LM3', 'C3');
```

```
create table Employee(employee_code varchar(10), manager_code varchar(10),
senior_manager_code varchar(10), lead_manager_code varchar(10), company_code
varchar(10));
insert into Employee values('E1', 'M1', 'SM1', 'LM1', 'C1');
insert into Employee values('E2', 'M1', 'SM1', 'LM1', 'C1');
insert into Employee values('E3', 'M2', 'SM2', 'LM1', 'C1');
insert into Employee values('E4', 'M3', 'SM3', 'LM2', 'C2');
insert into Employee values('E5', 'M4', 'SM3', 'LM2', 'C2');
insert into Employee values('E6', 'M5', 'SM4', 'LM3', 'C3');
insert into Employee values('E7', 'M6', 'SM5', 'LM3', 'C3');
```

Code for Main Query: -

```
select Company.company_code, Company.founder, count(distinct
Lead_Manager.lead_manager_code), count(distinct
Senior_Manager.senior_manager_code), count(distinct Manager.manager_code),
count(distinct Employee.employee_code) from Company join Lead_Manager on
Company.company_code = Lead_Manager.company_code join Senior_Manager on
Lead_Manager.lead_manager_code = Senior_Manager.lead_manager_code join Manager
on Manager.senior_manager_code = Senior_Manager.senior_manager_code join
Employee on Employee.manager_code = Manager.manager_code group by
Company.company_code, Company.founder order by Company.company_code;
```

5. **Result/Output/Writing Summary:**




```
create table Employee(employee_code varchar(10), manager_code varchar(10), senior_manager_code varchar(10), lead_manager_code varchar(10), company_code varchar(10));
insert into Employee values('E1', 'M1', 'SM1', 'LM1', 'C1');
insert into Employee values('E2', 'M1', 'SM1', 'LM1', 'C1');
insert into Employee values('E3', 'M2', 'SM2', 'LM1', 'C1');
insert into Employee values('E4', 'M3', 'SM3', 'LM2', 'C2');
insert into Employee values('E5', 'M4', 'SM3', 'LM2', 'C2');
insert into Employee values('E6', 'M5', 'SM4', 'LM3', 'C3');
insert into Employee values('E7', 'M6', 'SM5', 'LM3', 'C3');
select Company.company_code, Company.founder, count(distinct Lead_Manager.lead_manager_code), count(distinct Senior_Manager.senior_manager_code), count(distinct Manager.manager_code), count(distinct
Employee.employee_code) from Company join Lead_Manager on Company.company_code = Lead_Manager.company_code join Senior_Manager on Lead_Manager.lead_manager_code = Senior_Manager.lead_manager_code join
Manager on Manager.senior_manager_code = Senior_Manager.senior_manager_code join Employee on Employee.manager_code = Manager.manager_code group by Company.company_code, Company.founder order by
Company.company_code;
```

company_code	founder	count(distinct Lead_Manager.lead_manager_code)	count(distinct Senior_Manager.senior_manager_code)	count(distinct Manager.manager_code)	count(distinct Employee.employee_code)
C1	Rakesh	1	2	2	3
C2	Ambani	1	1	2	2
C3	Tata	1	2	2	2

Learning outcomes (What I have learned):

1. Learned to create tables and inset values in it.
2. Learned to implement the join method for getting the output.

Evaluation Grid:

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.	Demonstration and Performance (Pre Lab Quiz)		5
2.	Worksheet		10
3.	Post Lab Quiz		5

********** THE END **********