LAB Assignment: III

CBS 1007 Database Systems

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21BBS0025

Using the Tables given below, answer the Queries given in Exercises I and II

Data For Employee Table

FName	Minit	LName	SSN	BDate	Address	Sex	Salary	SuperSSN	DepNo
Doug	E	Gilbert	554433221	09-JUN-60	11 S 59 E, Salt Lake City, UT	M	80000	NULL	3
Joyce		PAN	543216789	07-FEB-78	35 S 18 E, Salt Lake City, UT	F	70000	NULL	2
Frankin	T	Wong	333445555	08-DEC-45	638 Voss, Houston, TX	M	40000	554433221	5
Jennifer	S	Wallace	987654321	20-JUN-31	291 Berry, Bellaire, TX	F	43000	554433221	4
John	B	Smith	123456789	09-JAN-55	731 Fondren, Houston, TX	M	30000	333445555	5
Ramesh	K	Narayan	666884444	15-SEP-52	975 Fire Oak, Humble, TX	M	38000	333445555	5
Joyce	A	English	453453453	31-JUL-62	5631 Rice, Houston, TX	F	25000	333445555	5
James	E	Borg	888665555	10-NOV-27	450 Stone, Houston, TX	M	55000	543216789	1
Alicia	J	Zelaya	999887777	19-JUL-58	3321 Castle, Spring, TX	F	25000	987654321	4
Ahmad	V	Jabbar	987987987	29-MAR-59	980 Dallas, Houston, TX	M	25000	987654321	4

Data For Department table

DName	DepNo	MgrSSN	MgrStartDate
Manufacture	1	888665555	19-JUN-71
Administration	2	543216789	04-JAN-99
Headquarter	3	554433221	22-SEP-55
Finance	4	987654321	01-JAN-85

Research	5	333445555	22-MAY-78

Data For Project

PName	PNumber	Plocation	DepNo
ProjectA	3388	Houston	1
ProjectB	1945	Salt Lake City	3
ProjectC	6688	Houston	5
ProjectD	2423	Bellaire	4
ProjectE	7745	Sugarland	5
ProjectF	1566	Salt Lake City	3
ProjectG	1234	New York	2
ProjectH	3467	Stafford	4
ProjectI	4345	Chicago	1
ProjectJ	2212	San Francisco	2

Table Name: Employee

Attribute	Data Type	Constraint
First Name	Varchar (15)	Not Null
Mid Name	Char(2)	
Last Name	Varchar (15)	Not Null
SSN Number	Char (9)	Primary Key
Birthday	Date	
Address	Varchar (50)	
Sex	Char(1)	Sex In (M,F,m,f)
Salary	Number (7)	Default 800
Supervisor SSN	Char (9)	Foreign Key Employee (SSN) on delete set null
Department number	Number(5)	Foreign key to department number of department table on delete cascade

Table Name : Department

Attribute	Data type	Constraint
Department Name	Varchar(15)	Not Null
Department number	INT(5)	Primary key
Manager SSN	Char (9)	Foreign key-Employee (SSN) on delete set null
Manage start date	Date	

Table Name : Dept_locations

Attribute	Data type	Constraint
Department Number	Number(5)	Department (dep no) onDelete Cascade

Department Location	Varchar (15)	

Table Name: Project

Attribute	Data type	Constraint
Project Name	Varchar2(15)	Not Null
Project number	Number(5)	Primary key
Project Location	Varchar2(50)	
Department Number	Number(5)	Foreign Key –Department (dep no) on delete set null

Table Name: Works_On

The combination of Employee SSN and Project Number must be a Primary Key

Attribute	Data type	Constraint
Employee SSN	Char (9)	Foreign Key Employee (SSN) on delete cascade
Project number	INT(5)	Foreign Key project (Pnumber) on delete cascade
Hours	Decimal (3,1)	Not null

Name: Dependent

The combination of Employee SSN and Dependent Name must be a Primary Key.

Attribute	Datatype	Constraint
Employee	Char (9)	Foreign Key- Employee (SSN) on Delete Cascade
Dependent Name	Varchar(15)	
Sex	Char(1)	Check Sex in (M,F,m,f)
Birthday	Date	
Relationship	Varchar(8)	

Data for table - Dept_Locations

Dep No	D Location
1	Houston
1	Chicago
2	New York
2	San Francisco
3	Salt Lake City
4	Stafford
4	Bellaire
5	Sugarland
5	Houston

Data for Table - Works_On

ESSN	Pno	Hours
123456789	3388	32.5
123456789	1945	7.5
666884444	3388	40.0
453453453	7745	20.0
453453453	2212	20.0
333445555	7745	10.0
333445555	6688	10.0
333445555	4345	35.0
333445555	2212	28.5
999887777	2212	11.5
543216789	2212	17.0
554433221	1945	21.5

Data for Table - Dependent

ESSN	Dependent_name	Sex	Bdate	Relationship
333445555	Alice	F	05-Apr-76	Daughter
333445555	Theodore	M	25-Oct-73	Son
333445555	Joy	F	03-May-48	Spouse
987654321	Abner	M	29-Feb-32	Spouse
123456789	Alice	F	31-Dec-78	Daughter
123456789	Elizabeth	F	05-may-57	Spouse

Exercise-I:

1. Insert the data given above in both employee, department and project tables.

CODE:-

INSERT INTO Employee (First_Name,Mid_Name, Last_Name, SSN_Number,

Birthday, Address, Sex, Salary, Supervisor_SSN, Department_number)

VALUES

('Doug','E', 'Gilbert', '554433221', '1960-06-09', '11 S 59 , Salt Lake City, UT', 'M', 80000,

NULL, 3),

('Joyce',null, 'PAN', '543216789', '1978-02-07', '35 S 18 , Salt Lake City, UT', 'F', 70000,

NULL, 2),

('Frankin','T', 'Wong', '333445555', '1945-12-08', '638 Voss, Houston, TX', 'M', 40000,

'554433221', 5),

('Jennifer','S', 'Wallace', '987654321', '1931-06-20', '291 Berry, Bellaire, TX', 'F', 43000,

'554433221', 4),

('John','B', 'Smith', '123456789', '1955-01-09', '731 Fondren, Houston, TX', 'M', 30000,

'333445555', 5),

('Ramesh','K', 'Narayan', '666884444', '1952-09-15', '975 Fire Oak, Humble, TX', 'M',

38000, '333445555', 5),

('Joyce','A', 'English', '453453453', '1962-07-31', '5631 Rice, Houston, TX', 'F', 25000, '333445555', 5),

('James','E', 'Borg', '888665555', '1927-11-10', '450 Stone, Houston, TX', 'M', 55000, '543216789', 1),

('Alicia','J', 'Zelaya', '999887777', '1958-07-19', '3321 Castle, Spring, TX', 'F', 25000, '987654321', 4),

('Ahmad','V', 'Jabbar', '987987987', '1959-03-29', '980 Dallas, Houston, TX', 'M', 25000, '987654321', 4);

INSERT INTO Department (Department_Name, Department_number, Manager_SSN, Manager_start_date)

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VALUES

("Manufacture", 1, "888665555", "1971-06-19"),

("Administration", 2, "543216789", "1999-01-04"),

("Headquarter", 3, "554433221", "1955-09-22"),

("Finance", 4, "987654321", "1985-01-01"),

("Research", 5, "333445555", "1978-05-22");

INSERT INTO Project (Project_Name, Project_number, Project_Location, Department_Number)

VALUES

('ProjectA', 3388, 'Houston', 1),

('ProjectB', 1945, 'Salt Lake City', 3),

('ProjectC', 6688, 'Houston', 5),

('ProjectD', 2423, 'Bellaire', 4),

('ProjectE', 7745, 'Sugarland', 5),

('ProjectF', 1566, 'Salt Lake City', 3),

('ProjectG', 1234, 'New York', 2),

('ProjectH', 3467, 'Stafford', 4),

('ProjectI', 4345, 'Chicago', 1),

('ProjectJ', 2212, 'San Francisco', 2);

OUTPUT:-

```
mysql> SELECT * FROM EMPLOYEE ;
```



```
mysql> SELECT * FROM Department;
+-----------------+-------------------+-------------+--------------------+
| Department_Name | Department_number | Manager_SSN | Manager_start_date |
+-----------------+-------------------+-------------+--------------------+
| Manufacture     |                 1 | 888665555   | 1971-06-19         |
| Administration  |                 2 | 543216789   | 1999-01-04         |
| Headquarter     |                 3 | 554433221   | 1955-09-22         |
| Finance         |                 4 | 987654321   | 1985-01-01         |
| Research        |                 5 | 333445555   | 1978-05-22         |
+-----------------+-------------------+-------------+--------------------+
5 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM Project;
+--------------+----------------+------------------+-------------------+
| Project_Name | Project_number | Project_Location | Department_Number |
+--------------+----------------+------------------+-------------------+
| ProjectG     |           1234 | New York         |                 2 |
| ProjectF     |           1566 | Salt Lake City   |                 3 |
| ProjectB     |           1945 | Salt Lake City   |                 3 |
| ProjectJ     |           2212 | San Francisco    |                 2 |
| ProjectD     |           2423 | Bellaire         |                 4 |
| ProjectA     |           3388 | Houston          |                 1 |
| ProjectH     |           3467 | Stafford         |                 4 |
| ProjectI     |           4345 | Chicago          |                 1 |
| ProjectC     |           6688 | Houston          |                 5 |
| ProjectE     |           7745 | Sugarland        |                 5 |
+--------------+----------------+------------------+-------------------+
10 rows in set (0.00 sec)
```

2. Display all the employees' information.

CODE:-

SELECT* FROM EMPLOYEE;

OUTPUT:-

3. Display Employee name along with his SSN and Supervisor SSN.

CODE:-

select First_Name,Mid_Name,Last_Name,SSN_Number,Supervisor_SSN from
Employee;

OUTPUT:-

```
mysql> select First_Name,Mid_Name,Last_Name,SSN_Number,Supervisor_SSN from Employee;
+------------+----------+-----------+------------+----------------+
| First_Name | Mid_Name | Last_Name | SSN_Number | Supervisor_SSN |
+------------+----------+-----------+------------+----------------+
| John       | B        | Smith     | 123456789  | 333445555      |
| Frankin    | T        | Wong      | 333445555  | 554433221      |
| Joyce      | A        | English   | 453453453  | 333445555      |
| Joyce      | NULL     | PAN       | 543216789  | NULL           |
| Doug       | E        | Gilbert   | 554433221  | NULL           |
| Ramesh     | K        | Narayan   | 666884444  | 333445555      |
| James      | E        | Borg      | 888665555  | 543216789      |
| Robert     | F        | Scott     | 943775543  | 888665555      |
| Jennifer   | S        | Wallace   | 987654321  | 554433221      |
| Ahmad      | V        | Jabbar    | 987987987  | 987654321      |
| Alicia     | J        | Zelaya    | 999887777  | 987654321      |
+------------+----------+-----------+------------+----------------+
11 rows in set (0.02 sec)
```

4. Display the employee names whose bdate is   '29-MAR-1959'.

CODE:-

SELECT First_Name,Mid_Name,Last_Name

FROM EMPLOYEE

WHERE Birthday = '1959-03-29';

OUTPUT:-

```
mysql> SELECT First_Name,Mid_Name,Last_Name
    -> FROM EMPLOYEE
    -> WHERE Birthday = '1959-03-29';
+------------+----------+-----------+
| First_Name | Mid_Name | Last_Name |
+------------+----------+-----------+
| Ahmad      | V        | Jabbar    |
+------------+----------+-----------+
1 row in set (0.00 sec)
```

5. Display salary of the employees without duplications.

CODE:-

select distinct Salary from Employee;

OUTPUT:-

```
mysql> select distinct Salary from Employee;
+--------+
| Salary |
+--------+
|  30000 |
|  40000 |
|  25000 |
|  70000 |
|  80000 |
|  38000 |
|  55000 |
|  58000 |
|  43000 |
+--------+
```

6. Display the MgrSSN, MgrStartDate of the manager of 'Finance' department.
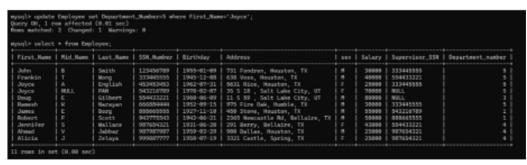CODE:-

select Manager_SSN, Manager_start_date from Department where

Department_Name='Finance';

OUTPUT:-

```
mysql> select Manager_SSN, Manager_start_date from Department where Department_Name='Finance';
+-------------+--------------------+
| Manager_SSN | Manager_start_date |
+-------------+--------------------+
| 987654321   | 1985-01-01         |
+-------------+--------------------+
1 row in set (0.01 sec)
```

7. Modify the department number of an employee having fname as 'Joyce' to 5

CODE:-

update Employee set Department_Number=5 where First_Name='Joyce';

select * from Employee;

```
mysql> update Employee set Department_Number=5 where First_Name='Joyce';
Query OK, 1 row affected (0.01 sec)
Rows matched: 2  Changed: 1  Warnings: 0

mysql> select * from Employee;
+------------+----------+-----------+------------+------------+-------------------------------+-----+--------+---------------+-------------------+
| First_Name | Mid_Name | Last_Name | SSN_Number | Birthday   | Address                       | sex | Salary | Supervisor_SSN | Department_number |
+------------+----------+-----------+------------+------------+-------------------------------+-----+--------+---------------+-------------------+
| John       | B        | Smith     | 123456789  | 1955-01-09 | 731 Fondren, Houston, TX      | M   | 30000  | 333445555     |                 5 |
| Franklin   | T        | Wong      | 333445555  | 1945-12-08 | 638 Voss, Houston, TX         | M   | 40000  | 554433221     |                 5 |
| Joyce      | A        | English   | 453453453  | 1962-07-31 | 5631 Rice, Houston, TX        | F   | 25000  | 333445555     |                 5 |
| Joyce      | NULL     | PAN       | 543216789  | 1970-02-07 | 35 S 18 , Salt Lake City, UT  | F   | 70000  | NULL          |                 5 |
| Doug       | E        | Gilbert   | 554433221  | 1960-06-09 | 11 S 59 , Salt Lake City, UT  | M   | 80000  | NULL          |                 3 |
| Ramesh     | K        | Narayan   | 666884444  | 1952-09-15 | 975 Fire Oak, Humble, TX      | M   | 38000  | 333445555     |                 5 |
| James      | E        | Borg      | 888665555  | 1927-11-10 | 450 Stone, Houston, TX        | M   | 55000  | 543216789     |                 1 |
| Robert     | F        | Scott     | 943775543  | 1942-06-21 | 2365 Newcastle Rd, Bellaire, TX| M   | 58000  | 888665555     |                 1 |
| Jennifer   | S        | Wallace   | 987654321  | 1931-06-20 | 291 Berry, Bellaire, TX       | F   | 43000  | 554433221     |                 4 |
| Ahmad      | V        | Jabbar    | 987987987  | 1959-03-29 | 980 Dallas, Houston, TX       | M   | 25000  | 987654321     |                 4 |
| Alicia     | J        | Zelaya    | 999887777  | 1958-07-19 | 3321 Castle, Spring, TX       | F   | 25000  | 987654321     |                 4 |
+------------+----------+-----------+------------+------------+-------------------------------+-----+--------+---------------+-------------------+
11 rows in set (0.00 sec)
```

8. Alter Table department add column DepartmentPhoneNum of NUMBER data type and insert values into this column only.

CODE:-

alter table Department add DepartmentPhoneNum INT(20);

update Department set DepartmentPhoneNum=773533242

where Department_Number=1;

update Department set DepartmentPhoneNum=986108923

where Department_Number =2;

update Department set DepartmentPhoneNum=889550180

where Department_Number =3;

update Department set DepartmentPhoneNum=986126434 where

Department_Number =4;

update Department set DepartmentPhoneNum=986264354 where

Department_Number =5;

select * from Department;

OUTPUT:-

9. Alter table department to modify the size of DepartmentPhoneNum.

CODE:-

ALTER TABLE Department MODIFY DepartmentPhoneNum INT(20);

select * from Department;

OUTPUT:-

10. Modify the field name DepartmentPhoneNum of departments table to PhNo.

CODE:-

ALTER TABLE Department

CHANGE DepartmentPhoneNum PhNo INT(20);

Select*from department ;

OUTPUT:-

```
mysql> ALTER TABLE Department
    -> CHANGE DepartmentPhoneNum PhNo INT(20);
Query OK, 0 rows affected, 1 warning (0.05 sec)
Records: 0  Duplicates: 0  Warnings: 1

mysql> Select*from department ;
+-----------------+-------------------+-------------+------------------+-----------+
| Department_Name | Department_number | Manager_SSN | Manager_start_date | PhNo    |
+-----------------+-------------------+-------------+------------------+-----------+
| Manufacture     |                 1 | 888665555   | 1971-06-19       | 773533242 |
| Administration  |                 2 | 543216789   | 1999-01-04       | 986108923 |
| Headquarter     |                 3 | 554433221   | 1955-09-22       | 889550180 |
| Finance         |                 4 | 987654321   | 1985-01-01       | 986126434 |
| Research        |                 5 | 123456789   | 1988-10-01       | 986264354 |
+-----------------+-------------------+-------------+------------------+-----------+
5 rows in set (0.00 sec)
```

11. Rename Table Department as DEPT.

CODE:-

RENAME TABLE Department TO DEPT;

select * from DEPT

OUTPUT:-

```
mysql> RENAME TABLE Department TO DEPT;
Query OK, 0 rows affected (0.02 sec)

mysql> select * from DEPT;
+-----------------+-------------------+-------------+------------------+-----------+
| Department_Name | Department_number | Manager_SSN | Manager_start_date | PhNo    |
+-----------------+-------------------+-------------+------------------+-----------+
| Manufacture     |                 1 | 888665555   | 1971-06-19       | 773533242 |
| Administration  |                 2 | 543216789   | 1999-01-04       | 986108923 |
| Headquarter     |                 3 | 554433221   | 1955-09-22       | 889550180 |
| Finance         |                 4 | 987654321   | 1985-01-01       | 986126434 |
| Research        |                 5 | 123456789   | 1988-10-01       | 986264354 |
+-----------------+-------------------+-------------+------------------+-----------+
5 rows in set (0.00 sec)
```

12. Alter Table department remove column PhNo.

CODE:-

alter table DEPT drop column PhNo;

select * from DEPT;

OUTPUT:-

```
mysql> alter table DEPT drop column PhNo;
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> select * from DEPT;
+-----------------+-------------------+-------------+------------------+
| Department_Name | Department_number | Manager_SSN | Manager_start_date |
+-----------------+-------------------+-------------+------------------+
| Manufacture     |                 1 | 888665555   | 1971-06-19       |
| Administration  |                 2 | 543216789   | 1999-01-04       |
| Headquarter     |                 3 | 554433221   | 1955-09-22       |
| Finance         |                 4 | 987654321   | 1985-01-01       |
| Research        |                 5 | 123456789   | 1988-10-01       |
+-----------------+-------------------+-------------+------------------+
5 rows in set (0.00 sec)
```

13. Create a table COPYOFDEPT as a copy of the table DEPT.

CODE:-

create table copy as select * from DEPT;

select * from copy;

OUTPUT:-

```
mysql> create table copy as select * from DEPT;
Query OK, 5 rows affected (0.02 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> select * from copy;
+-----------------+-------------------+------------+-------------------+
| Department_Name | Department_number | Manager_SSN | Manager_start_date |
+-----------------+-------------------+------------+-------------------+
| Manufacture     |                 1 | 888665555  | 1971-06-19        |
| Administration  |                 2 | 543216789  | 1999-01-04        |
| Headquarter     |                 3 | 554433221  | 1955-09-22        |
| Finance         |                 4 | 987654321  | 1985-01-01        |
| Research        |                 5 | 123456789  | 1988-10-01        |
+-----------------+-------------------+------------+-------------------+
5 rows in set (0.00 sec)
```

14. Delete all the rows from COPYOF DEPT table.

CODE:-

delete from copy;

select * from copy;

OUTPUT:-

```
mysql> delete from copy;
Query OK, 5 rows affected (0.00 sec)

mysql> select * from copy;
Empty set (0.00 sec)
```

15. Remove COPYOF DEPT table.
CODE:-

drop table copy;

select * from copy;

OUTPUT:-

```
mysql> drop table copy;
Query OK, 0 rows affected (0.02 sec)

mysql> select * from copy;
ERROR 1146 (42S02): Table 'labda2_3.copy' doesn't exist
```

Exercise: II

Operators and Functions

Execute the following queries based on the schema specified in exercise 1

1. Find the employee names having salary greater than Rs.25000 .

CODE:-

SELECT First_Name,Mid_Name,Last_Name

FROM EMPLOYEE WHERE SALARY > 25000;

```
mysql> SELECT First_Name,Mid_Name,Last_Name
    -> FROM EMPLOYEE WHERE SALARY > 25000;
+------------+----------+-----------+
| First_Name | Mid_Name | Last_Name |
+------------+----------+-----------+
| John       | B        | Smith     |
| Frankin    | T        | Wong      |
| Joyce      | NULL     | PAN       |
| Doug       | E        | Gilbert   |
| Ramesh     | K        | Narayan   |
| James      | E        | Borg      |
| Robert     | F        | Scott     |
| Jennifer   | S        | Wallace   |
+------------+----------+-----------+
8 rows in set (0.00 sec)
```

2. Find the employee names whose salary lies in the range between 30000 and 70000.

CODE:-

SELECT First_Name,Mid_Name,Last_Name

FROM EMPLOYEE WHERE SALARY BETWEEN 30000 AND 70000;

OUTPUT:-

```
mysql> SELECT First_Name,Mid_Name,Last_Name
    ->  FROM EMPLOYEE WHERE SALARY BETWEEN 30000 AND 70000;
+------------+----------+-----------+
| First_Name | Mid_Name | Last_Name |
+------------+----------+-----------+
| John       | B        | Smith     |
| Frankin    | T        | Wong      |
| Joyce      | NULL     | PAN       |
| Ramesh     | K        | Narayan   |
| James      | E        | Borg      |
| Robert     | F        | Scott     |
| Jennifer   | S        | Wallace   |
+------------+----------+-----------+
7 rows in set (0.00 sec)
```

3. Find the employees who have no supervisor.

CODE:-

SELECT First_Name,Mid_Name,Last_Name

FROM EMPLOYEE WHERE SUPERVISOR_SSN IS NULL;

OUTPUT:-

```
mysql> SELECT First_Name,Mid_Name,Last_Name
    -> FROM EMPLOYEE WHERE SUPERVISOR_SSN IS NULL;
+------------+----------+-----------+
| First_Name | Mid_Name | Last_Name |
+------------+----------+-----------+
| Joyce      | NULL     | PAN       |
| Doug       | E        | Gilbert   |
+------------+----------+-----------+
2 rows in set (0.00 sec)
```

4. Display the   birthdate of all employee s in the format 'DDthMonthYYYY'.

CODE:-

SELECT DATE_FORMAT(Birthday, '%Y-%m-%d') AS formatted_bdate FROM

employee;

OUTPUT:-

```
mysql> SELECT DATE_FORMAT(Birthday, '%Y-%m-%d') AS formatted_bdate FROM employee;
+-----------------+
| formatted_bdate |
+-----------------+
| 1955-01-09      |
| 1945-12-08      |
| 1962-07-31      |
| 1978-02-07      |
| 1960-06-09      |
| 1952-09-15      |
| 1927-11-10      |
| 1942-06-21      |
| 1931-06-20      |
| 1959-03-29      |
| 1958-07-19      |
+-----------------+
11 rows in set (0.00 sec)
```

5. Display the employee names whose bdate is on or before 1978. 6. Display the employee names having 'salt lake' in their address.

CODE:-

SELECT First_Name,Mid_Name,Last_Name

FROM EMPLOYEE WHERE Birthday <= 1978-12-31;

OUTPUT:-

```
mysql> SELECT First_Name,Mid_Name,Last_Name
    -> FROM EMPLOYEE WHERE Birthday <= 1978-12-31;
Empty set, 1 warning (0.00 sec)
```

7. Display the department name that starts with 'M'.

CODE:-

SELECT Department_Name

FROM DEPT WHERE Department_Name LIKE 'M%';

OUTPUT:-

```
mysql> SELECT Department_Name
    -> FROM DEPT WHERE Department_Name LIKE 'M%';
+-----------------+
| Department_Name |
+-----------------+
| Manufacture     |
+-----------------+
1 row in set (0.00 sec)
```

8. Display the departme nt names' that ends with 'E'.

CODE:-

SELECT Department_Name

FROM DEPT WHERE Department_Name LIKE '%e';

OUTPUT:-

```
mysql> SELECT Department_Name
    -> FROM DEPT WHERE Department_Name LIKE '%e';
+-----------------+
| Department_Name |
+-----------------+
| Manufacture     |
| Finance         |
+-----------------+
2 rows in set (0.00 sec)
```

9. Display the names of all the employees having supervisor with any of the following
   SSN 554433221, 333445555.

CODE:-

SELECT First_Name,Mid_Name,Last_Name

FROM EMPLOYEE WHERE SUPERVISOR_SSN IN ('554433221', '333445555');

OUTPUT:-

```
mysql> SELECT First_Name,Mid_Name,Last_Name
    -> FROM EMPLOYEE WHERE SUPERVISOR_SSN IN ('554433221', '333445555');
+------------+----------+-----------+
| First_Name | Mid_Name | Last_Name |
+------------+----------+-----------+
| John       | B        | Smith     |
| Joyce      | A        | English   |
| Ramesh     | K        | Narayan   |
| Frankin    | T        | Wong      |
| Jennifer   | S        | Wallace   |
+------------+----------+-----------+
5 rows in set (0.00 sec)
```

10. Display all the department names in upper case and lower case.

CODE:-

SELECT UPPER(Department_Name) AS UPPER_DEPT_NAME,

LOWER(Department_Name) AS LOWER_DEPT_NAME FROM DEPT;

OUTPUT:-

```
mysql> SELECT UPPER(Department_Name) AS UPPER_DEPT_NAME, LOWER(Department_Name) AS LOWER_DEPT_NAME FROM DEPT;
+-----------------+-----------------+
| UPPER_DEPT_NAME | LOWER_DEPT_NAME |
+-----------------+-----------------+
| MANUFACTURE     | manufacture     |
| ADMINISTRATION  | administration  |
| HEADQUARTER     | headquarter     |
| FINANCE         | finance         |
| RESEARCH        | research        |
+-----------------+-----------------+
5 rows in set (0.00 sec)
```

11. Display the first four characters and last four of the department names using substring
    function.

CODE:-

SELECT SUBSTR(Department_Name, 1, 4) AS FIRST_FOUR_CHARS,

SUBSTR(Department_Name, -4) AS LAST_FOUR_CHARS FROM DEPT;

OUTPUT:-

```
mysql> SELECT SUBSTR(Department_Name, 1, 4) AS FIRST_FOUR_CHARS, SUBSTR(Department_Name, -4) AS LAST_FOUR_CHARS FROM DEPT;
+------------------+-----------------+
| FIRST_FOUR_CHARS | LAST_FOUR_CHARS |
+------------------+-----------------+
| Manu             | ture            |
| Admi             | tion            |
| Head             | rter            |
| Fina             | ance            |
| Rese             | arch            |
+------------------+-----------------+
5 rows in set (0.00 sec)
```

12. Display the substring of the Address (starting from 5 position to 11 th position) of all
    employees.

CODE:-

SELECT SUBSTR(ADDRESS, 5, 7) AS ADDRESS_SUBSTRING

FROM EMPLOYEE;

OUTPUT:-

```
mysql> SELECT SUBSTR(ADDRESS, 5, 7) AS ADDRESS_SUBSTRING
    -> FROM EMPLOYEE;
+-------------------+
| ADDRESS_SUBSTRING |
+-------------------+
| Fondren           |
| Voss, H           |
|  Rice,            |
|  18 , S           |
|  59 , S           |
| Fire Oa           |
| Stone,            |
|  Newcas           |
| Berry,            |
| Dallas,           |
|  Castle           |
+-------------------+
11 rows in set (0.00 sec)
```

13. Display the Mgrstartdate on adding three months to it.

CODE:-

SELECT Department_Name, DATE_ADD(Manager_start_date, INTERVAL 3

MONTH) AS Manager_start_date

FROM DEPT;

OUTPUT:-

```
mysql> SELECT Department_Name, DATE_ADD(Manager_start_date, INTERVAL 3 MONTH) AS Manager_start_date
    -> FROM DEPT;
+----------------+--------------------+
| Department_Name | Manager_start_date |
+----------------+--------------------+
| Manufacture    | 1971-09-19         |
| Administration | 1999-04-04         |
| Headquarter    | 1955-12-22         |
| Finance        | 1985-04-01         |
| Research       | 1989-01-01         |
+----------------+--------------------+
5 rows in set (0.00 sec)
```

14. Display the age of all the employees rounded to two digits.

CODE:-

SELECT First_Name,

ROUND(DATEDIFF(CURDATE(), Birthday)/365.25, 2) AS Age

FROM EMPLOYEE;

OUTPUT:-

```
mysql> SELECT First_Name,
    -> ROUND(DATEDIFF(CURDATE(), Birthday)/365.25, 2) AS Age
    -> FROM EMPLOYEE;
+------------+-------+
| First_Name | Age   |
+------------+-------+
| John       | 68.14 |
| Frankin    | 77.22 |
| Joyce      | 60.58 |
| Joyce      | 45.06 |
| Doug       | 62.72 |
| Ramesh     | 70.45 |
| James      | 95.30 |
| Robert     | 80.69 |
| Jennifer   | 91.69 |
| Ahmad      | 63.92 |
| Alicia     | 64.61 |
+------------+-------+
11 rows in set (0.00 sec)
```

15. Find the last day and next day of the month in which each manager has joined.

SELECT Manager_SSN,Manager_start_date,

LAST_DAY(Manager_start_date) AS last_day,

DATE_ADD(Manager_start_date, INTERVAL 1 DAY) AS next_day

FROM DEPT;

OUTPUT:-

```
mysql> SELECT Manager_SSN,Manager_start_date,
    -> LAST_DAY(Manager_start_date) AS last_day,
    -> DATE_ADD(Manager_start_date, INTERVAL 1 DAY) AS next_day
    -> FROM DEPT;
+-------------+--------------------+------------+------------+
| Manager_SSN | Manager_start_date | last_day   | next_day   |
+-------------+--------------------+------------+------------+
| 888665555   | 1971-06-19         | 1971-06-30 | 1971-06-20 |
| 543216789   | 1999-01-04         | 1999-01-31 | 1999-01-05 |
| 554433221   | 1955-09-22         | 1955-09-30 | 1955-09-23 |
| 987654321   | 1985-01-01         | 1985-01-31 | 1985-01-02 |
| 123456789   | 1988-10-01         | 1988-10-31 | 1988-10-02 |
+-------------+--------------------+------------+------------+
5 rows in set (0.00 sec)
```

16. Print a substring from the string 'Harini'.

CODE:-

SELECT SUBSTR('Harini', 2, 3) AS SUBSTRING FROM DUAL;

OUTPUT:-

```
mysql> SELECT SUBSTR('Harini', 2, 3) AS SUBSTRING FROM DUAL;
+-----------+
| SUBSTRING |
+-----------+
| ari       |
+-----------+
1 row in set (0.00 sec)
```

17. Replace the string 'ni' from 'Harini' by 'sh'.

CODE:-

SELECT REPLACE('Harini', 'ni', 'sh') AS REPLACED_STRING FROM DUAL;

OUTPUT:-

```
mysql> SELECT REPLACE('Harini', 'ni', 'sh') AS REPLACED_STRING FROM DUAL;
+-----------------+
| REPLACED_STRING |
+-----------------+
| Harish          |
+-----------------+
1 row in set (0.00 sec)
```

18. Print the length of all the department names.

CODE:-

SELECT LENGTH(Department_Name) AS DEPARTMENT_NAME_LENGTH

FROM DEPT;

OUTPUT:-

```
mysql> SELECT LENGTH(Department_Name) AS DEPARTMENT_NAME_LENGTH
    -> FROM DEPT;
+------------------------+
| DEPARTMENT_NAME_LENGTH |
+------------------------+
|                     11 |
|                     14 |
|                     11 |
|                      7 |
|                      8 |
+------------------------+
5 rows in set (0.00 sec)
```

19. Print the system date in the format 25 th May 2007.

CODE:-

SELECT DATE_FORMAT(NOW(), '%D %M %Y');

OUTPUT:-

```
mysql> SELECT DATE_FORMAT(NOW(), '%D %M %Y');
+--------------------------------+
| DATE_FORMAT(NOW(), '%D %M %Y') |
+--------------------------------+
| 28th February 2023             |
+--------------------------------+
1 row in set (0.00 sec)
```

20. Display the date after 10 months from current date.

CODE:-

SELECT DATE_ADD(NOW(), INTERVAL 10 MONTH);

OUTPUT:-

```
mysql> SELECT DATE_ADD(NOW(), INTERVAL 10 MONTH);
+------------------------------------+
| DATE_ADD(NOW(), INTERVAL 10 MONTH) |
+------------------------------------+
| 2023-12-28 22:41:58                |
+------------------------------------+
1 row in set (0.00 sec)
```

Display Convert SSN of employee to Number format and display.

21. Display the project location padded with **** on left side.

CODE:-

SELECT Project_Name, LPAD(Project_Location, LENGTH(Project_Location) + 4, '*')

AS PaddedLocation FROM Project;

OUTPUT:-

```
mysql> SELECT Project_Name, LPAD(Project_Location, LENGTH(Project_Location) + 4, '*') AS PaddedLocation FROM Project;
+--------------+-------------------+
| Project_Name | PaddedLocation    |
+--------------+-------------------+
| ProjectG     | ****New York      |
| ProjectF     | ****Salt Lake City|
| ProjectB     | ****Salt Lake City|
| ProjectJ     | ****San Francisco |
| ProjectD     | ****Bellaire      |
| ProjectA     | ****Houston       |
| ProjectH     | ****Stafford      |
| ProjectI     | ****Chicago       |
| ProjectC     | ****Houston       |
| ProjectE     | ****Sugarland     |
+--------------+-------------------+
10 rows in set (0.01 sec)
```

22. Remove the word 'Project' from the project name and display it.
CODE:-

SELECT REPLACE(Project_Name, 'Project ', '') AS ModifiedProjectName

FROM Project;

OUTPUT:-

```
mysql> SELECT REPLACE(Project_Name, 'Project ', '') AS ModifiedProjectName
    -> FROM Project;
+---------------------+
| ModifiedProjectName |
+---------------------+
| ProjectA            |
| ProjectB            |
| ProjectC            |
| ProjectD            |
| ProjectE            |
| ProjectF            |
| ProjectG            |
| ProjectH            |
| ProjectI            |
| ProjectJ            |
+---------------------+
10 rows in set (0.01 sec)
```

23. Select the SSN of the employee whose dependent name is either Michael or Abner.

CODE:-

SELECT SSN_Number

FROM Employee

WHERE SSN_Number

IN (SELECT Employee_SSN FROM Dependent WHERE Dependent_Name IN

('Michael', 'Abner'));

OUTPUT:-

```
mysql> SELECT SSN_Number
    -> FROM Employee
    -> WHERE SSN_Number
    -> IN (SELECT Employee_SSN FROM Dependent WHERE Dependent_Name IN ('Michael', 'Abner'));
+------------+
| SSN_Number |
+------------+
| 987654321  |
+------------+
1 row in set (0.00 sec)
```

****