21/7/2020 **ASSIGNMENT 1**  Sanjay Rawat(7341)

**Batch T6**

**PROBLEM STATEMENT**

Execute the following SQL statements.

Employee(Fname,Minit, Lname, SSN, Bdate,Address,Gender,Salary,Super\_ssn, Dno)

Department (Dname, Dnumber, Mgr\_ssn,[Mgr\_start\_date])

Dept\_locations(Dnumber,Dlocation)

Project(Pname, Pnumber, Plocation,Dnum)

Works\_on(Essn,Pno,[Hours])

Dependent (Essn,Dependent\_name,Sex,Bdate,Relationship)

1. Create tables for above schemas.
2. Define integrity and value constraints wherever appropriate.
3. Alter table *Department* to add *Mgr\_start\_date* column and *Works\_on* table to add

*Hours* column to it.

1. Create sequences that can be used as primary key in each table.
2. Create an index on employee’s SSN.
3. Create a simple view with Employee’s name and project names on which he works.
4. Drop table Dependent.
5. Insert values into all tables created in Q.1.
6. Display a) all employee’s information b) employee’s name and their respective

Project. c) Unique project nos d) project info. with appropriate column aliases.

1. Retrieve the birth date and address of the employee whose name is ’John B. Smith’
2. Find the sum of salaries of all employees, the maximum salary, the minimum salary

and the average salary

1. Display all the employees from Mumbai alphabetically.
2. Find all employees whose names have “ing”.
3. Find the total number of employees in the ‘Research’ department.
4. Find the number of years service done by manager from Mgr\_start\_date.

**EXECUTION:**

Enter password: \*\*\*\*\*\*\*\*\*\*\*\*

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 64

Server version: 8.0.20 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> SHOW DATABASES;

+--------------------+

| Database |

+--------------------+

| information\_schema |

| mysql |

| performance\_schema |

| person |

| sakila |

| southwind |

| sys |

| test |

| world |

+--------------------+

9 rows in set (0.00 sec)

mysql> USE southwind;

Database changed

mysql> SHOW TABLES;

+---------------------+

| Tables\_in\_southwind |

+---------------------+

| products |

| student |

+---------------------+

2 rows in set (0.00 sec)

mysql> CREATE TABLE EMPLOYEE(

-> Fname varchar(20),

-> Lname varchar(20),

-> SSN varchar(30) PRIMARY KEY,

-> Bdate date,

-> Address varchar(30),

-> Gender char(5),

-> Salary int ,

-> Super\_ssn varchar(30),

-> Dno int

-> );

Query OK, 0 rows affected (1.81 sec)

mysql> CREATE TABLE DEPARTMENT(

-> Dname varchar(30),

-> Dnumber int PRIMARY KEY,

-> Mgr\_ssn varchar(30)

-> );

Query OK, 0 rows affected (0.47 sec)

mysql> CREATE TABLE DEPT\_LOCATIONS(

-> Dnumber int,

-> Dlocation varchar(30),

-> PRIMARY KEY(Dnumber,Dlocation)

-> );

Query OK, 0 rows affected (0.95 sec)

mysql> CREATE TABLE PROJECT(

-> Pname varchar(30),

-> Pnumber int,

-> Plocation varchar(30),

-> Dnum int,

-> PRIMARY KEY(Pnumber,Plocation)

-> );

Query OK, 0 rows affected (0.49 sec)

mysql> CREATE TABLE WORKS\_ON(

-> Essn varchar(30),

-> Pno int,

-> PRIMARY KEY(Essn,Pno)

-> );

Query OK, 0 rows affected (0.48 sec)

mysql> CREATE TABLE DEPENDENT(

-> Essn varchar(30),

-> Dependent\_name varchar(30),

-> Sex char(5),

-> Bdate date,

-> Relationship varchar(30),

-> PRIMARY KEY(Essn,Dependent\_name)

-> );

Query OK, 0 rows affected (1.00 sec)

mysql> SHOW TABLES;

+---------------------+

| Tables\_in\_southwind |

+---------------------+

| department |

| dependent |

| dept\_locations |

| employee |

| products |

| project |

| student |

| works\_on |

+---------------------+

8 rows in set (0.04 sec)

mysql> ALTER TABLE EMPLOYEE ADD FOREIGN KEY(Dno) REFERENCES DEPARTMENT(Dnumber);

Query OK, 0 rows affected (2.13 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE DEPARTMENT ADD COLUMN Mgr\_start\_date date;

Query OK, 0 rows affected (0.65 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE WORKS\_ON ADD COLUMN Hours int;

Query OK, 0 rows affected (0.55 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> INSERT INTO EMPLOYEE(Fname,Lname,SSN,Bdate,Address,Gender,Salary,Super\_ssn,Dno) values

-> ('Sanjay','Rawat','1456',"2000-06-03",'DDUN','M',10000,'101',1),

-> ('Atul','Rawat','2903',"2003-03-19",'AGM','M',2000,'102',2),

-> ('Anjali','Rawat','3123',"2005-12-13",'RPG','F',30000,'103',3)

-> ;

ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails (`southwind`.`employee`, CONSTRAINT `employee\_ibfk\_1` FOREIGN KEY (`Dno`) REFERENCES `department` (`Dnumber`))

mysql> INSERT INTO DEPARTMENT(Dname,Dnumber,Mgr\_ssn,Mgr\_start\_date) values

-> ('Computer',1,'1001',"2019-02-24"),

-> ('IT',2,'1005',"2018-12-04"),

-> ('ENTC',3,'1015',"2020-06-12"),

-> ('MECH',4,'1115',"2012-08-30")

-> ;

Query OK, 4 rows affected (0.20 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> INSERT INTO EMPLOYEE(Fname,Lname,SSN,Bdate,Address,Gender,Salary,Super\_ssn,Dno) values

-> ('Sanjay','Rawat','1456',"2000-06-03",'DDUN','M',10000,'101',1),

-> ('Atul','Rawat','2903',"2003-03-19",'AGM','M',2000,'102',2),

-> ('Anjali','Rawat','3123',"2005-12-13",'RPG','F',30000,'103',3)

-> ;

Query OK, 3 rows affected (0.17 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> INSERT INTO DEPT\_LOCATIONS(Dnumber,Dlocation) values

-> (2,'DELHI'),

-> (1,'PUNE'),

-> (4,'UTTRAKHAND'),

-> (3,'BANGLORE')

-> ;

Query OK, 4 rows affected (0.20 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> INSERT INTO PROJECT(Pname,Pnumber,Plocation,Dnum) values

-> ('Internet Marketing',101,'PUNE',1),

-> ('WINDOWS DEV',102,'BANGLORE',3),

-> ('RANGER',104,'DELHI',2),

-> ('AUTOMOBILES',103,'UTTRAKHAND',4)

-> ;

Query OK, 4 rows affected (0.17 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> INSERT INTO WORKS\_ON(Essn,Pno,Hours) values

-> ('123',101,2),

-> ('125',104,4),

-> ('155',102,8),

-> ('100',103,10)

-> ;

Query OK, 4 rows affected (0.13 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> INSERT INTO DEPENDENT(Essn,Dependent\_name,Sex,Bdate,Relationship) values

-> ('125','Sanjay','M',"2000-06-03",'Brother'),

-> ('125','ATUL','M',"2003-03-19",'C. Brother'),

-> ('155','Anjali','F',"2005-12-13",'C. Sister'),

-> ('100','Anish','M',"2015-10-10",'Bhai')

-> ;

Query OK, 4 rows affected (0.15 sec)

Records: 4 Duplicates: 0 Warnings: 0

mysql> INSERT INTO EMPLOYEE(Fname,Lname,SSN,Bdate,Address,Gender,Salary,Super\_ssn,Dno) values

-> ('Anish','Rawat','1566',"2015-10-10",'DANGI','M',15000,'110',4);

Query OK, 1 row affected (0.08 sec)

mysql> SELECT\*FROM EMPLOYEE;

+--------+-------+------+------------+---------+--------+--------+-----------+------+

| Fname | Lname | SSN | Bdate | Address | Gender | Salary | Super\_ssn | Dno |

+--------+-------+------+------------+---------+--------+--------+-----------+------+

| Sanjay | Rawat | 1456 | 2000-06-03 | DDUN | M | 10000 | 101 | 1 |

| Anish | Rawat | 1566 | 2015-10-10 | DANGI | M | 15000 | 110 | 4 |

| Atul | Rawat | 2903 | 2003-03-19 | AGM | M | 2000 | 102 | 2 |

| Anjali | Rawat | 3123 | 2005-12-13 | RPG | F | 30000 | 103 | 3 |

+--------+-------+------+------------+---------+--------+--------+-----------+------+

4 rows in set (0.00 sec)

mysql> SELECT\*FROM PROJECT;

+--------------------+---------+------------+------+

| Pname | Pnumber | Plocation | Dnum |

+--------------------+---------+------------+------+

| Internet Marketing | 101 | PUNE | 1 |

| WINDOWS DEV | 102 | BANGLORE | 3 |

| AUTOMOBILES | 103 | UTTRAKHAND | 4 |

| RANGER | 104 | DELHI | 2 |

+--------------------+---------+------------+------+

4 rows in set (0.00 sec)

mysql> SELECT DISTINCT Pnumber FROM PROJECT;

+---------+

| Pnumber |

+---------+

| 101 |

| 102 |

| 103 |

| 104 |

+---------+

4 rows in set (0.04 sec)

mysql> SELECT E.Fname,E.Lname,P.Pname FROM EMPLOYEE E,PROJECT P

-> WHERE E.Dno=P.Dnum;

+--------+-------+--------------------+

| Fname | Lname | Pname |

+--------+-------+--------------------+

| Sanjay | Rawat | Internet Marketing |

| Anish | Rawat | AUTOMOBILES |

| Atul | Rawat | RANGER |

| Anjali | Rawat | WINDOWS DEV |

+--------+-------+--------------------+

4 rows in set (0.00 sec)

INSERT INTO EMPLOYEE(Fname,Lname,SSN,Bdate,Address,Gender,Salary,Super\_ssn,Dno) values

-> ('Preetam','Rawat','1592',"1993-12-31",'RPG','M',25000,'120',3);

Query OK, 1 row affected (0.14 sec)

mysql> SELECT\*FROM EMPLOYEE;

+---------+-------+------+------------+---------+--------+--------+-----------+------+

| Fname | Lname | SSN | Bdate | Address | Gender | Salary | Super\_ssn | Dno |

+---------+-------+------+------------+---------+--------+--------+-----------+------+

| Sanjay | Rawat | 1456 | 2000-06-03 | DDUN | M | 10000 | 101 | 1 |

| Anish | Rawat | 1566 | 2015-10-10 | DANGI | M | 15000 | 110 | 4 |

| Preetam | Rawat | 1592 | 1993-12-31 | RPG | M | 25000 | 120 | 3 |

| Atul | Rawat | 2903 | 2003-03-19 | AGM | M | 2000 | 102 | 2 |

| Anjali | Rawat | 3123 | 2005-12-13 | RPG | F | 30000 | 103 | 3 |

+---------+-------+------+------------+---------+--------+--------+-----------+------+

5 rows in set (0.00 sec)

mysql> SELECT E.Dno,E.Fname,E.Lname,P.Pname FROM EMPLOYEE E,PROJECT P

-> WHERE E.Dno=P.Dnum;

+------+---------+-------+--------------------+

| Dno | Fname | Lname | Pname |

+------+---------+-------+--------------------+

| 1 | Sanjay | Rawat | Internet Marketing |

| 3 | Preetam | Rawat | WINDOWS DEV |

| 3 | Anjali | Rawat | WINDOWS DEV |

| 4 | Anish | Rawat | AUTOMOBILES |

| 2 | Atul | Rawat | RANGER |

+------+---------+-------+--------------------+

5 rows in set (0.08 sec)

mysql> SELECT DISTINCT Pnumber FROM PROJECT;

+---------+

| Pnumber |

+---------+

| 101 |

| 102 |

| 103 |

| 104 |

+---------+

4 rows in set (0.05 sec)

mysql> SELECT\*FROM PROJECT;

+--------------------+---------+------------+------+

| Pname | Pnumber | Plocation | Dnum |

+--------------------+---------+------------+------+

| Internet Marketing | 101 | PUNE | 1 |

| WINDOWS DEV | 102 | BANGLORE | 3 |

| AUTOMOBILES | 103 | UTTRAKHAND | 4 |

| RANGER | 104 | DELHI | 2 |

+--------------------+---------+------------+------+

4 rows in set (0.00 sec)