

DR. B.R. AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY,
JALANDHAR



DBMS PROJECT

COMPANY MANAGEMENT SYSTEM

SUBMITTED BY:

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BRANCH: IT

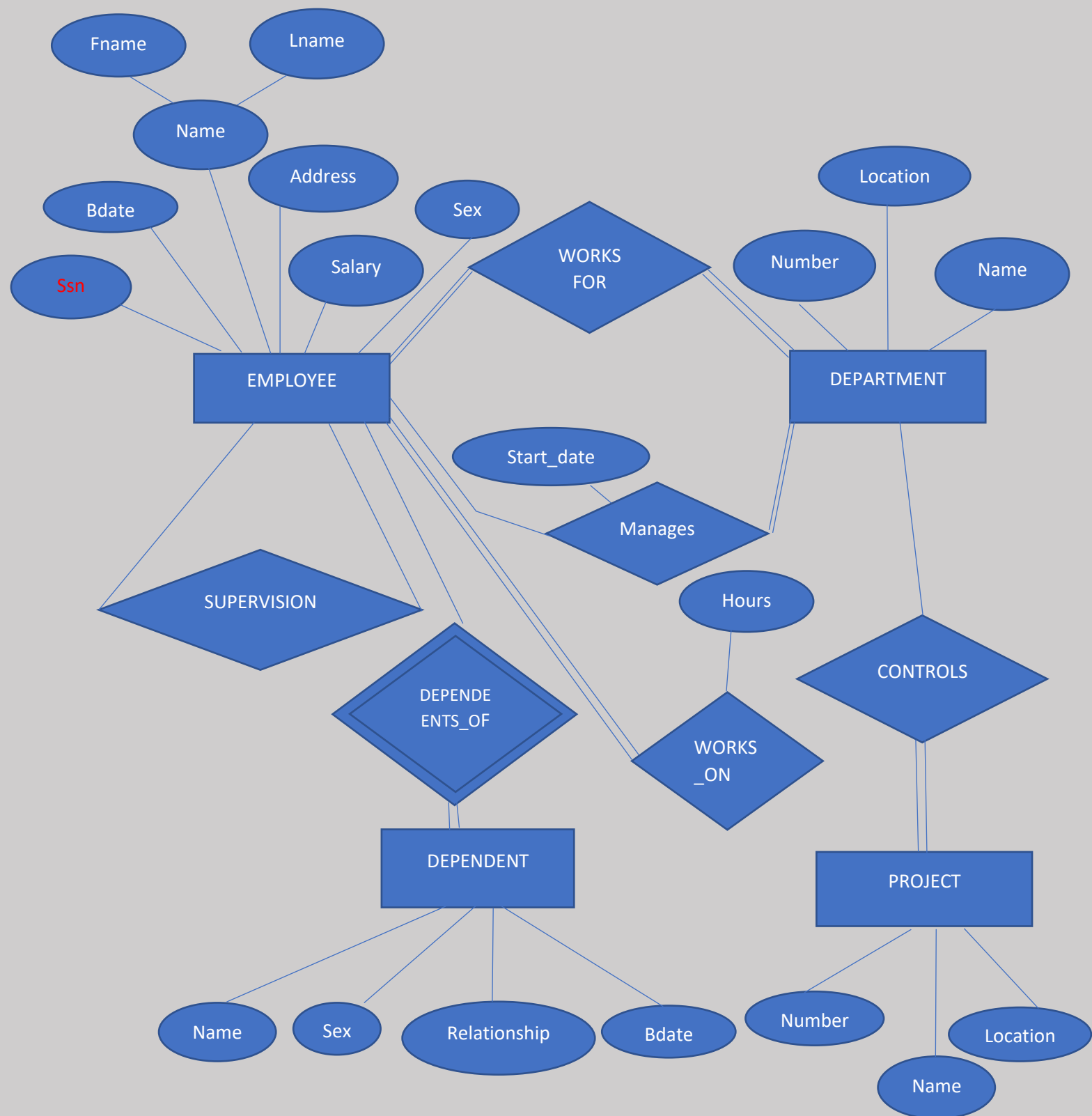
GROUP:4Ab

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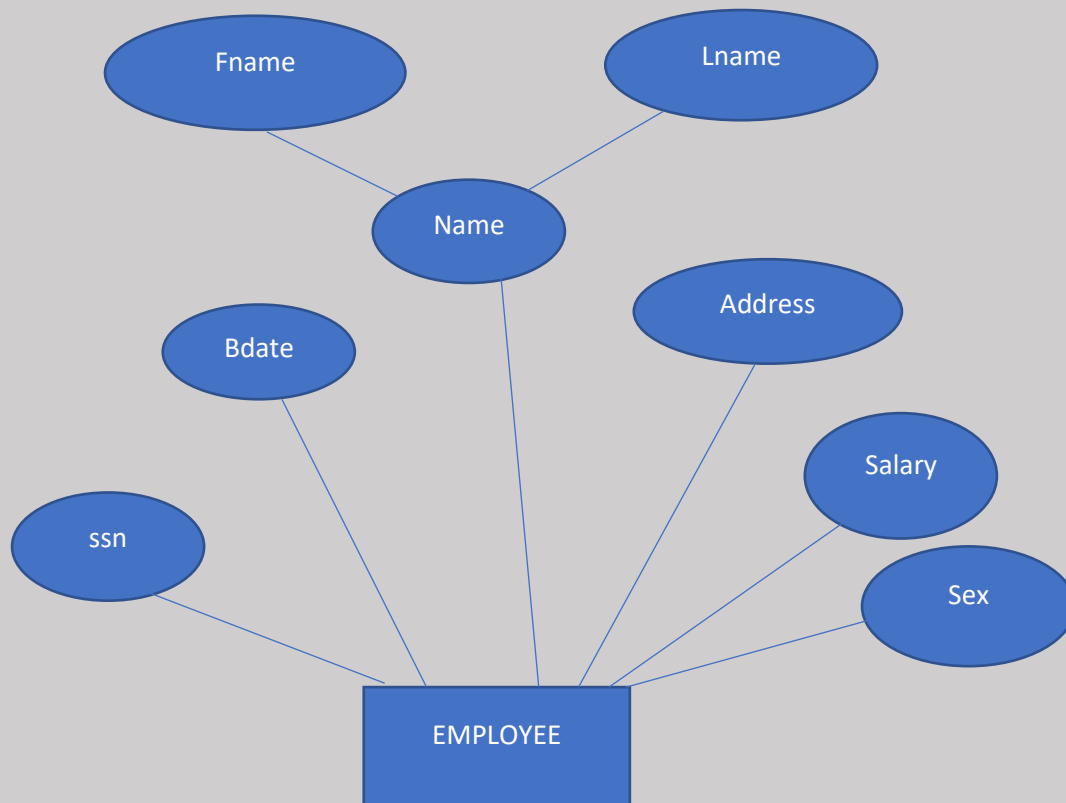
DR. AMRITPAL SINGH

(DEPARTMENT OF DBMS)

1 ENTITY-RELATIONSHIP DIAGRAM FOR COMPANY MANAGEMENT

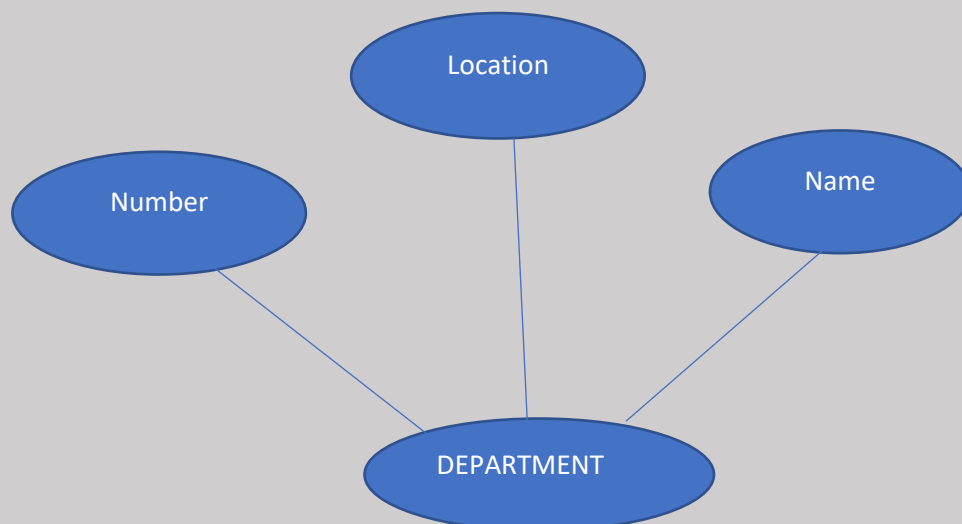


EMPLOYEE



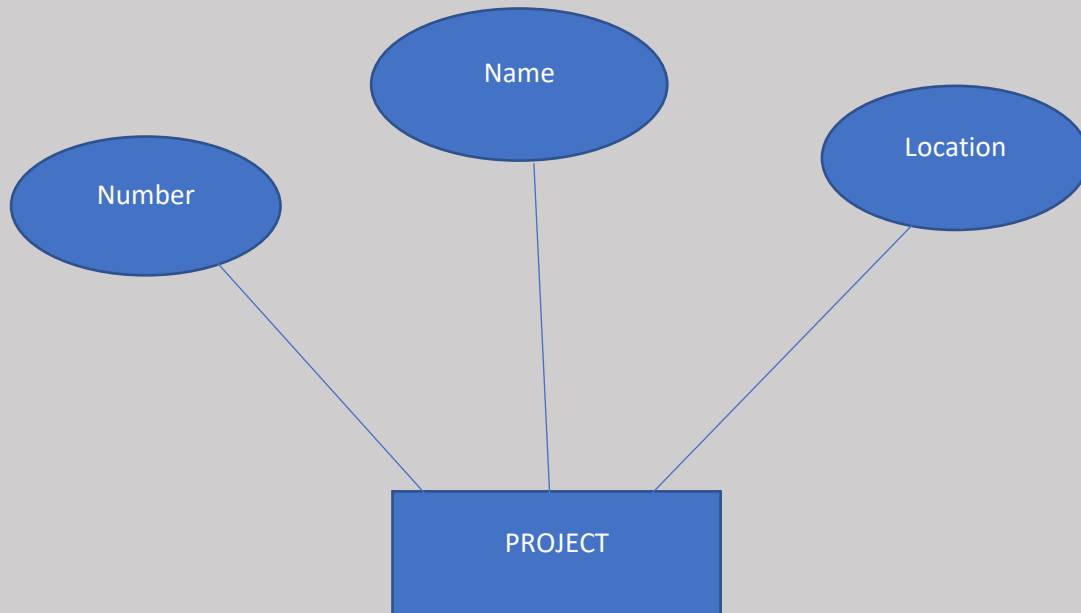
PRIMARY KEY-> ssn

DEPARTMENT



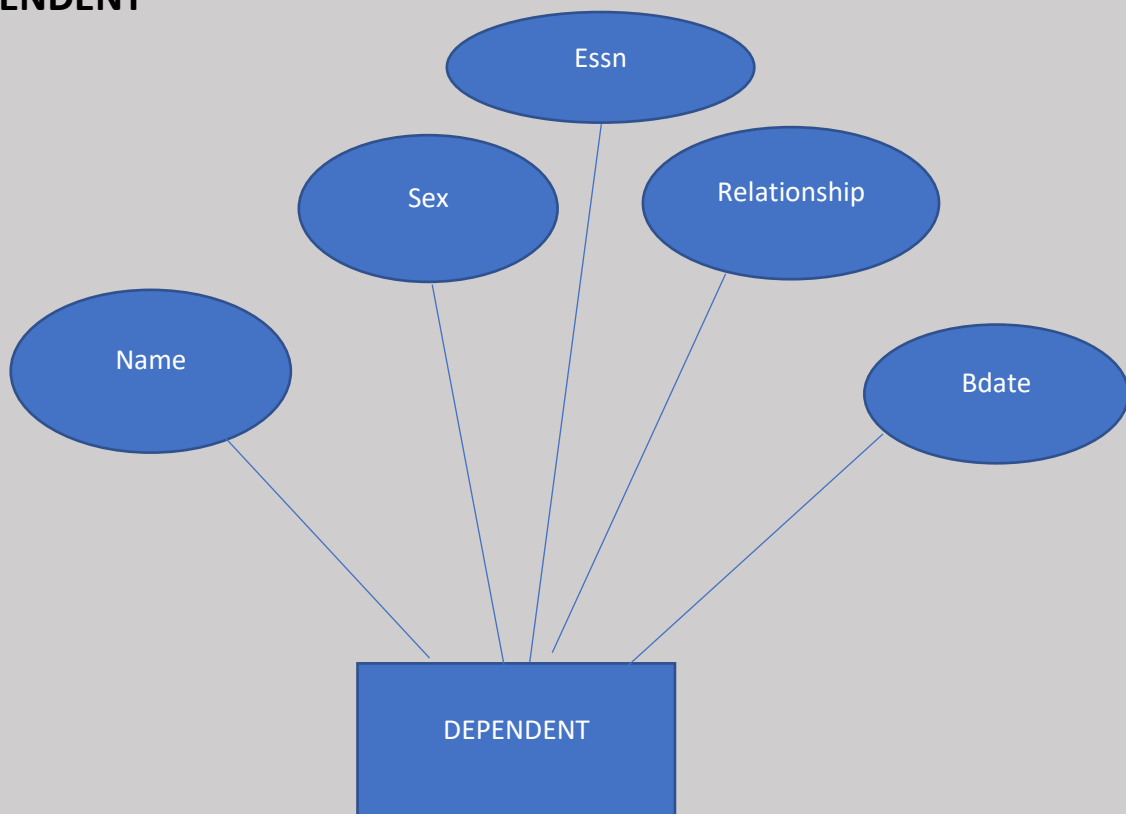
PRIMARY KEY-> Dnumber

PROJECT



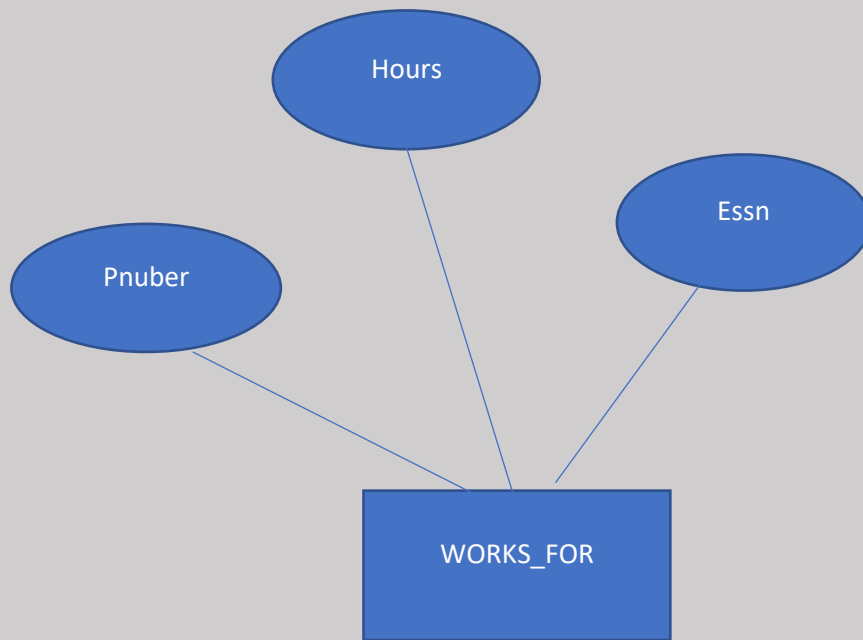
PRIMARY KEY-> Dnumber,Dlocation

DEPENDENT



PRIMARY KEY-> Dname,Essn

WORKS_ON



PRIMARY KEY-> Essn,Pnumber

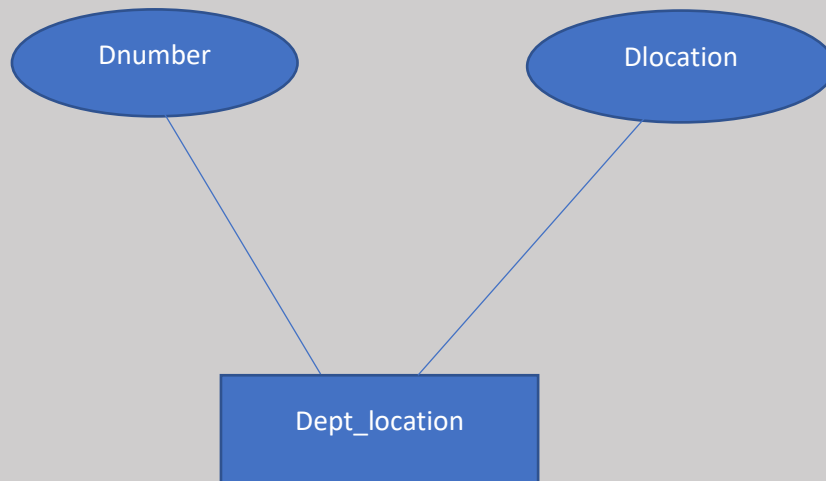


Table of employee

fname	mname	lname	ssn	Bdate	Address	Sex	Salary	Supper_ssn	Dnumber
Piyush	K	Chaupal	1233	1998-11-12	Bihar KG 343	M	50000.00	45623	1
Rakesh	B	Sharma	1234	1996-01-08	Jalandhar,GT road 144	M	40000.00	45624	1
Akhilesh	A	Marak	1235	1978-09-08	Delhi MS road 2343	M	30000.00	45625	2
Tanya	M	Marak	1236	2000-09-04	Hyderabad Kukatpalli 243	F	35000.00	45626	3
Sonu	K	Maurya	1237	1999-03-11	Delhi DS road 3454	M	45000.00	45627	4
Somalya	M	Roy	1238	2000-03-05	Delhi MS road 3676	F	40000.00	45628	4
Sapna	K	Bhatt	1239	1997-03-11	Punjab kLS road 354	F	50000.00	45628	3
Ayush	K	Roy	1240	1998-11-12	Uttar Pardesh KGH 5453	M	60000.00	45629	2
Dipti	K	Thakur	1241	1999-07-12	Bihar GSD 346	F	40000.00	45630	4
Yash	K	Korai	1242	1995-08-12	Hyderabad KG 3898	M	30000.00	45631	3
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Table of Department

Dname	Dnumber	Mgr_ssn	Mgr_start_date
Research	1	1234	2010-10-12
Accountent	2	1235	2015-11-12
Management	3	1236	2000-09-12
Administration	4	1237	2012-12-12
NULL	NULL	NULL	NULL

Table of Project

Pname	Pnumber	Plocation	Dnumber
Book Store 1	1	Training Point1	1
Book Store2	2	Training Point2	2
Book Store3	3	Training Point3	3
Book Store4	4	Training Point4	4
NULL	NULL	NULL	NULL

Table of Works_on

	Essn	Pnumber	Hours
	1233	1	8.5
	1234	2	12.0
	1235	3	12.0
	1236	4	11.0
	1237	2	9.0
	1238	1	12.0
	1239	3	8.0
	1240	1	9.0
	1241	3	9.0
	1242	4	12.0
	NULL	NULL	NULL

Table of Dependent

	Essn	Dname	Sex	Bdate	Relationship
	1234	Research	M	1978-09-09	Brother
	1235	Accountant	F	1995-09-09	Daughter
	1236	Management	F	1998-09-09	Sister
	1237	Administration	M	1996-09-09	Son
	NULL	NULL	NULL	NULL	NULL

Table of Dept_location

	Dnumber	Dlocation
	1	Delhi South Zone
	2	Delhi East Zone
	3	Delhi West Zone
	4	Delhi North Zone
	NULL	NULL

CREATE DATABASE company;

USE company;

/*Creating of Employee table*/

/*Employee Table*/

```
CREATE TABLE employee(  
  fname VARCHAR(25) NOT NULL,  
  mname VARCHAR(15) NULL,  
  lname VARCHAR(15) NOT NULL,  
  ssn CHAR(9) NOT NULL,  
  Bdate DATE,  
  Address VARCHAR(40) NOT NULL,  
  Sex CHAR NULL,  
  Salary DECIMAL(12,2) NULL,  
  Supper_ssn CHAR(10) NULL,  
  Dnumber INT NOT NULL,  
  PRIMARY KEY(ssn));
```

/* Inserting the row in employee table */

```
INSERT INTO employee VALUES('Piyush','K','Chaupal','1233','1998-11-12','Bihar KG  
343','M','50000','45623',1);
```

```
INSERT INTO employee VALUES ('Rakesh','B','Sharma','1234','1996-01-08','Jalandhar,GT road  
144','M','40000','45624',1);
```

```
INSERT INTO employee VALUES('Akhilesh','A','Marak','1235','1978-09-08','Delhi MS road  
2343','M','30000','45625',2);
```

```
INSERT INTO employee VALUES ('Tanya','M','Marak','1236','2000-09-04','Hyderabad  
Kukatpalli 243','F','35000','45626',3);
```



```
INSERT INTO employee VALUES ('Sonu','K','Maurya','1237','1999-03-11','Delhi DS road 3454','M','45000','45627',4);
```

```
INSERT INTO employee VALUES ('Somalya','M','Roy','1238','2000-03-05','Delhi MS road 3676','F','40000','45628',4);
```

```
INSERT INTO employee VALUES ('Sapna','K','Bhatt','1239','1997-03-11','Punjab kLS road 354','F','50000','45628',3);
```

```
INSERT INTO employee VALUES('Ayush','K','Roy','1240','1998-11-12','Uttar Pardesh KGH 5453','M','60000','45629',2);
```

```
INSERT INTO employee VALUES('Dipti','K','Thakur','1241','1999-07-12','Bihar GSD 346','F','40000','45630',4);
```

```
INSERT INTO employee VALUES('Yash','K','Korai','1242','1995-08-12','Hyderabad KG 3898','M','30000','45631',3);
```

/* To show the all the data from the employee table*/

```
SELECT *FROM employee;
```

/* Creating Department table */

/*Department Table*/

```
CREATE TABLE department(  
Dname VARCHAR(20) NOT NULL,  
Dnumber INT NOT NULL,  
Mgr_ssn CHAR(10) NOT NULL,  
Mgr_start_date DATE NULL,  
PRIMARY KEY(Dnumber));
```

/* Inserting the row in the department table*/

```
INSERT INTO department VALUES('Research',1,'1234','2010-10-12');
```

```
INSERT INTO department VALUES('Accountent',2,'1235','2015-11-12');
```

```
INSERT INTO department VALUES('Management',3,'1236','2000-09-12');
```

```
INSERT INTO department VALUES('Administration',4,'1237','2012-12-12');
```

/* To show the all the data from the department table*/

SELECT *FROM department;

/* To create the dept_locations table*/

/*Department location Table*/

CREATE TABLE dept_locations(
Dnumber INT NOT NULL,
Dlocation VARCHAR(20) NOT NULL,
PRIMARY KEY(Dnumber,Dlocation));

/* To insert the row in table dept_locations*/

INSERT INTO dept_locations VALUES(1,'Delhi South Zone');

INSERT INTO dept_locations VALUES(2,'Delhi East Zone');

INSERT INTO dept_locations VALUES(3,'Delhi West Zone');

INSERT INTO dept_locations VALUES(4,'Delhi North Zone');

/*To show the all the data from dept_locations*/

SELECT *FROM dept_locations;

/* To create the table project*/

/*Project Table*/

CREATE TABLE project(
Pname VARCHAR(20) NOT NULL,
Pnumber INT NOT NULL,
Plocation VARCHAR(25),

```
Dnumber INT NOT NULL,  
PRIMARY KEY(Pnumber),  
UNIQUE(Pname));
```

/* To insert all the row in the table project*/

```
INSERT INTO project VALUES('Book Store1',1,'Training Point1',1);  
INSERT INTO project VALUES('Book Store2',2,'Training Point2',2);  
INSERT INTO project VALUES('Book Store3',3,'Training Point3',3);  
INSERT INTO project VALUES('Book Store4',4,'Training Point4',4);
```

/* To show the all the data of the project table*/

```
SELECT *FROM project;
```

/* To create the table works_on*/

/*Works_on Table*/

```
CREATE TABLE works_on(  
Essn CHAR(10) NOT NULL,  
Pnumber INT NOT NULL,  
Hours DECIMAL(3,1) NOT NULL,  
PRIMARY KEY(Essn,Pnumber));
```

/* To insert the row in the works_on table*/

```
INSERT INTO works_on VALUES('1233',1,'8.5');  
INSERT INTO works_on VALUES('1234',2,'12');  
INSERT INTO works_on VALUES('1235',3,'12');  
INSERT INTO works_on VALUES('1236',4,'11');
```

```
INSERT INTO works_on VALUES('1237',2,'9');
INSERT INTO works_on VALUES('1238',1,'12');
INSERT INTO works_on VALUES('1239',3,'8');
INSERT INTO works_on VALUES('1240',1,'9');
INSERT INTO works_on VALUES('1241',3,'9');
INSERT INTO works_on VALUES('1242',4,'12');
```

/* To show the all the data of works_on table*/

```
SELECT *FROM works_on;
```

/* To create table dependent*/

/*Dependent Table*/

```
CREATE TABLE dependent(
Essn CHAR(10) NOT NULL,
Dname VARCHAR(20) NOT NULL,
Sex CHAR(10),
Bdate DATE,
Relationship VARCHAR(20),
PRIMARY KEY(Essn,Dname));
```

/* To insert the row in dependent table*/

```
INSERT INTO dependent VALUES('1234','Research','M','1978-09-09','Brother');
INSERT INTO dependent VALUES('1235','Accountant','F','1995-09-09','Daughter');
INSERT INTO dependent VALUES('1236','Management','F','1998-09-09','Sister');
INSERT INTO dependent VALUES('1237','Administration','M','1996-09-09','Son');
SELECT *FROM dependent;
```

/*Connection to table using foreign key with alter clause*/

```
ALTER TABLE department ADD FOREIGN KEY(mgr_ssn) REFERENCES employee(ssn);  
ALTER TABLE dept_locations ADD FOREIGN KEY(Dnumber) REFERENCES  
department(Dnumber);  
ALTER TABLE project ADD FOREIGN KEY(Dnumber) REFERENCES department(Dnumber);  
ALTER TABLE works_on ADD FOREIGN KEY(Essn) REFERENCES employee(ssn);  
ALTER TABLE dependent ADD FOREIGN KEY(Essn) REFERENCES employee(ssn);
```

/*Select Query*/

/*1. To get the ssn,fname,Address from the employee which is belong to department number 4 */

```
SELECT ssn,fname,Address FROM employee WHERE Dnumber=4;
```

/*2. To get the ssn,fname,Address from the employee whose salary is greater than and equal to 40000 */

```
SELECT ssn,fname,Address FROM employee WHERE salary>=40000;
```

/*Use of AND,OR and NOT Operator*/

/* 1. To get the ssn,fname,Address from the employee whose salary is greater than 40000 and less than 50000 */

```
SELECT ssn,fname,Address FROM employee WHERE salary>40000 and salary<50000;
```

/* 2. To get the ssn,fname,Address from the employee whose salary is greater than 40000 or department number is 1 */

```
SELECT ssn,fname,Address FROM employee WHERE Dnumber=1 OR salary>40000;
```

/* 3. To get the ssn,fname,Address from the employee who is not belong to department number 1 */

```
SELECT ssn,fname,Address FROM employee WHERE NOT Dnumber=1;
```

/* Distinct clause */

/*1. To get the department number from employee which is belong to male category */

SELECT DISTINCT Dnumber FROM employee WHERE sex='M';

/*Order by clause*/

/* 1. To get the fname and department number from employee in increasing order of department number*/

SELECT fname,Dnumber FROM employee ORDER BY Dnumber;

/* 2. To get the fname and department number from employee whose salary is greater than 40000 and department number in increasing order */

SELECT fname,Dnumber FROM employee WHERE salary>40000 ORDER BY Dnumber ASC;

/*3.To get the fname, department number and salary from employee whose salary is greater than 30000 and first name is in decending order */

SELECT fname,Dnumber,salary FROM employee WHERE salary>30000 ORDER BY fname DESC;

/*Group Caluse*/

/*1. To get the sum of salary departmentwise */

SELECT Dnumber,SUM(salary) FROM employee GROUP BY Dnumber ;

/* 2. To count the number of social security number departmentwise*/

SELECT Dnumber,COUNT(ssn) FROM employee GROUP BY Dnumber ;

/* 3. To get the maximum salary department wise */

SELECT fname,Dnumber,MAX(salary) AS max_salary_deptwise FROM employee GROUP BY Dnumber ;

/*Having Clause*/

/* 1. To select the department number and sum of salary from the employee where sum of the salary department wise is greater than 100000*/

```
SELECT Dnumber,sum(salary) FROM employee GROUP BY Dnumber HAVING  
SUM(salary)>100000 ;
```

/* 2. To get the department number and sum of salary department wise having sum of salary departmentwise is greater than 80000 and Department number ordered should be in accending order*/

```
SELECT Dnumber,sum(salary) FROM employee GROUP BY Dnumber HAVING  
SUM(salary)>80000 ORDER BY Dnumber ;
```

/*Like Calause*/

/* 1. To get the first name, Department number from the employee whose fname contain letter 'p'*/

```
SELECT fname,Dnumber FROM employee WHERE fname LIKE '%p%';
```

/* 2. To get the first name, department number and address from the employee whose address contain 3 as last digit*/

```
SELECT fname,Dnumber,Address FROM employee WHERE Address LIKE '%3';
```

/* 3. To get the first name, department number and address from the employee whose birth date contain 2000 first four digit*/

```
SELECT fname,Dnumber,Address,Bdate FROM employee WHERE Bdate LIKE '2000%';
```

/* 4. To get the first name, department number and supper social security number from employee whose supper social security number contain last digit as 8*/

```
SELECT fname,Dnumber,Supper_ssn FROM employee WHERE Supper_ssn LIKE '%8';
```

/* 5. To get the first name, Department number and address from the employee which contain 5 letter and end with 'a'*/

```
SELECT fname,Dnumber,Address FROM employee WHERE fname LIKE '____a';
```

/* 6. To get the first name, Department number and address from the employee which not contain 5 letter and end with 'a'*/

```
SELECT fname,Dnumber,Address FROM employee WHERE fname NOT LIKE '____a';
```

/*Between Caluse*/

/* 1. To get the first name and department number and address from employee those salary in between 40000 and 55000*/

SELECT fname,Dnumber,Address FROM employee WHERE salary BETWEEN 40000 AND 55000;

/* 2. To get the first name and department number and address from employee those department number between 1 and 2*/

SELECT fname,Dnumber,Address FROM employee WHERE Dnumber BETWEEN 1 AND 2;

/* Maths function */

/* 1. To get total number of social security number from employee those department number is 4.

SELECT COUNT(ssn) FROM employee WHERE Dnumber=4;

/* 2. To get the sum of salary from the employee who is belongs to male category and department number 1*/

SELECT SUM(Salary) FROM employee WHERE Dnumber=1 AND Sex="M";

/* 3. To get the average salary from the employee whose department number are 1 or 4 and it's salary is greater than 40000*/

SELECT AVG(Salary) FROM employee WHERE (Dnumber=1 OR Dnumber=4) AND Salary>40000;

/*4. To get the minimum salary from the employee whose department number is 1 or 4*/

SELECT MIN(Salary) FROM employee WHERE (Dnumber=1 OR Dnumber=4);

/*5. To get the maximum salary from the employee whose department number is 1 or 4*/

SELECT MAX(Salary) FROM employee WHERE (Dnumber=1 OR Dnumber=4);

/* Time function */

/*1. To get the first name, address and salary of employee whose birth date on Monday*/

SELECT fname,address,salary from employee WHERE DAYNAME(Bdate)="Monday";

/*2. To get the department number, department number and dayname of start date not contain department number 1*/


```
SELECT dname,dnumber,dayname(mgr_start_date) FROM department WHERE NOT  
dnumber=1;
```

/* Nested Caluse */

/* 1. To get the first name, last name and salary from employee whose department name is Reaserch*/

```
SELECT fname,lname,salary FROM employee WHERE dnumber IN (SELECT dnumber FROM  
department WHERE dname="Research");
```

/* 2. To get the first name, last name and salary from employee whose project name is book store2*/

```
SELECT fname,lname,salary FROM employee WHERE dnumber IN (SELECT dnumber FROM  
project WHERE pname="Book store2");
```

/* 3. To get the department name and relationship from dependent whose start date is '2020-10-12'*/

```
SELECT dname,Relationship FROM dependent WHERE essn IN(SELECT ssn FROM employee  
WHERE dnumber in(SELECT dnumber FROM department WHERE mgr_start_date='2010-10-  
12'));
```

/*4. To get the department location from the dept_locations whose department name is management*/

```
SELECT dlocation FROM dept_locations WHERE Dnumber IN(SELECT Dnumber FROM  
department WHERE Dname="management");
```

/*5. To get the project name and department location from project whose first name is Sapna*/

```
SELECT pname,plocation FROM project WHERE dnumber IN(SELECT dnumber FROM  
employee WHERE fname="Sapna");
```

/* Join in MySQL */

/* 1. To get the first name, last name and salary from employee whose department name is Reaserch*/

```
SELECT fname,fname,salary FROM employee JOIN department ON  
employee.dnumber=department.dnumber WHERE dname="Research";
```

/* 2. To get the first name, last name and salary from employee whose project name is book store2*/

```
SELECT employee.fname, employee.fname,salary FROM employee JOIN project ON  
employee.Dnumber=project.Dnumber WHERE pname="Book store2";
```

/* 3. To get the department name and relationship from dependent whose start date is '2020-10-12'*/

```
SELECT dependent.dname,dependent.Relationship FROM dependent JOIN employee ON  
dependent.Essn=employee.ssn JOIN department ON  
employee.dnumber=department.dnumber WHERE mgr_start_date='2010-10-12';
```

/*4. To get the department location from the dept_locations whose department name is management*/

```
SELECT dept_locations.Dlocation FROM dept_locations JOIN department ON  
dept_locations.Dnumber=department.Dnumber WHERE Dname="management";
```

/*5. To get the project name and department location from project whose first name is Sapna*/

```
SELECT project.Pname,project.Plocation FROM project JOIN employee ON  
project.Dnumber=employee.Dnumber WHERE fname="Sapna";
```

/* View in MySQL*/

/*1. Create the view of whole employee table*/

```
CREATE VIEW EmpView As SELECT *FROM Employee;
```

/* 2. To get the all details of view of employee table*/

```
SELECT * FROM EmpView;
```

/* 3. To insert the data inside the view of the employee table*/

```
INSERT INTO EmpView VALUES('Yashi','K','Suman','1243','1995-09-12','Hyderabad KI  
3897','F','35000','45632',3);
```

/* 4. To update the data of view of employee table*/

```
/*UPDATE EmpView SET Salary=50000 WHERE fname="Rakesh";*/
```

/*5. To deleting the view of employee table*/

```
DROP VIEW EmpView;
```

/*6. To view of employee table of taking some specific tuple at a time*/

```
CREATE VIEW emp AS SELECT fname,dnumber,salary from employee;
```

/*7. To get the all details of view of employee table*/

```
SELECT * FROM emp;
```

/*8. To create the view of two different table at time*/

```
CREATE VIEW empdept AS SELECT a.fname,a.lname,a.salary,a.dnumber,b.dname FROM  
employee a,department b where a.dnumber=b.dnumber;
```

/*9. To get the all details of data newly created view taking two table at a time*/

```
SELECT *FROM empdept;
```

/* Index in MySQL*/

/*1. Creation of index*/

```
CREATE INDEX i1 on department(dname);
```

/*2. To get the all the information of index*/

```
SELECT *FROM i1;
```

/*3. Dropping of i1 index*/

```
DROP INDEX i1 ON department;
```

/*4. Creation of index i2*/

```
CREATE INDEX i2 ON employee(dnumber);
```

/*5. Creation of composite index i3*/

CREATE INDEX i3 ON employee(dnumber,ssn);

/*6. To create the unique index*/

CREATE UNIQUE INDEX i4 ON employee(fname,dnumber);