**Database Management System Lab**

**Assignment - 4**

**Name :- Harsh Singh**

**Roll No. :- 244CA018**

1. **Create the following tables with the following attributes and constraints on them.**
2. **Employee** (Fname, mname, lname, Ssn, Bdate, address, gender, salary, Super\_Ssn, Dept\_num)  
    Lname, Ssn, Dept\_num should be not null

=> CREATE TABLE Employee (

Fname VARCHAR(50),

Mname VARCHAR(50),

Lname VARCHAR(50) NOT NULL,

Ssn CHAR(9) NOT NULL,

Bdate DATE,

Address VARCHAR(255),

Gender CHAR(1),

Salary DECIMAL(10, 2),

Super\_Ssn CHAR(9),

Dept\_num INT NOT NULL,

PRIMARY KEY (Ssn),

FOREIGN KEY (Dept\_num) REFERENCES Department(Dept\_num),

FOREIGN KEY (Super\_Ssn) REFERENCES Employee(Ssn)

);

1. **Department** (Dept\_num, Dept\_name, Mgr\_Ssn, Mgr\_startdate)  
    Dept\_name should be unique.

=> CREATE TABLE Department (

Dept\_num INT PRIMARY KEY,

Dept\_name VARCHAR(100) UNIQUE NOT NULL,

Mgr\_Ssn CHAR(9),

Mgr\_startdate DATE,

FOREIGN KEY (Mgr\_Ssn) REFERENCES Employee(Ssn)

);

1. **Department\_locations** (Dept\_num, location.  
    Dept\_num and location both are primary key  
    Dept\_num is foreign key

=> CREATE TABLE Department\_locations (

Dept\_num INT,

Location VARCHAR(100),

PRIMARY KEY (Dept\_num, Location),

FOREIGN KEY (Dept\_num) REFERENCES Department(Dept\_num)

);

1. **Project** (Proj\_num, Proj\_name, Proj\_location, Dept\_num)

=> CREATE TABLE Project (

Proj\_num INT PRIMARY KEY,

Proj\_name VARCHAR(100),

Proj\_location VARCHAR(100),

Dept\_num INT,

FOREIGN KEY (Dept\_num) REFERENCES Department(Dept\_num)

);

1. **Employee\_Project** (Ssn, Proj\_num, Hours)

=> CREATE TABLE Employee\_Project (

Ssn CHAR(9),

Proj\_num INT,

Hours DECIMAL(5, 2),

PRIMARY KEY (Ssn, Proj\_num),

FOREIGN KEY (Ssn) REFERENCES Employee(Ssn),

FOREIGN KEY (Proj\_num) REFERENCES Project(Proj\_num)

);

f. **Dependent** (Ssn, Dept\_name, gender, bdate, relationship)

=> CREATE TABLE Dependent (

Ssn CHAR(9),

Dept\_name VARCHAR(100),

Gender CHAR(1),

Bdate DATE,

Relationship VARCHAR(50),

PRIMARY KEY (Ssn, Dept\_name),

FOREIGN KEY (Ssn) REFERENCES Employee(Ssn),

FOREIGN KEY (Dept\_name) REFERENCES Department(Dept\_name)

);

1. **Add two column blood group and hobbies to employee table.**

=> ALTER TABLE employee ADD (b\_group char(2), hobbies varchar(100));

1. **Increase the size of column blood group to 15 to the employee table.**

=> ALTER TABLE employee MODIFY (b\_group char(15));

1. **Drop column hobbies from the employee table.**

=> ALTER TABLE employee DROP COLUMN hobbies;

1. **Rename Employee Table to Employee\_details.**

=>ALTER TABLE employee RENAME TO employee\_details;

1. **Insert at least five records in each table.**
2. **Employee**

=> INSERT INTO Employee VALUES ('John', 'A', 'Doe', ' 111223333', '15-MAR-1995', '123 Main St', 'M', 3500.00, NULL, 1, 'A+');

INSERT INTO Employee VALUES ('Jane', 'B', 'Smith', '222334555', '20-JUL-1990', '456 Oak Ave', 'F', 4500.00, NULL, 2, 'B-');

INSERT INTO Employee VALUES ('Alice', 'C', 'Johnson', '333445666', '11-JUN-1982', '789 Pine Blvd', 'F', 6000.00, NULL, 3, 'O+');

INSERT INTO Employee VALUES ('Bob', 'D', 'Williams', '444556777', '29-AUG-1975', '101 Maple Rd', 'M', 5500.00, NULL, 1, 'B+');

INSERT INTO Employee VALUES ('Charlie', 'E', 'Brown', '555667888', '17-FEB-1992', '202 Cedar St', 'M', 3000.00, NULL, 2, 'A+');

1. **Department**

=> INSERT INTO Department VALUES (1, 'Marketing', '111223333', '01-MAY-2010');

INSERT INTO Department VALUES (2, 'Sales', '222334555', '14-AUG-2015');

INSERT INTO Department VALUES (3, 'Engineering', '333445666', '21-SEP-2019');

INSERT INTO Department VALUES (4, 'HR', '444556777', '19-MAR-2008');

INSERT INTO Department VALUES (3, 'Finance', '555667888', 061-JUL-2005');

1. **Department\_Loacations**

=> INSERT INTO Department\_locations VALUES (1, 'New York');

INSERT INTO Department\_locations VALUES (1, 'San Francisco');

INSERT INTO Department\_locations VALUES (2, 'Chicago');

INSERT INTO Department\_locations VALUES (2, 'Los Angeles');

INSERT INTO Department\_locations VALUES (3, 'Seattle');

1. **Project**

=> INSERT INTO Project VALUES (1, 'Super', 'New York', 1);

INSERT INTO Project VALUES (2, 'TechUpgrade', 'Seattle', 3);

INSERT INTO Project VALUES (3, 'AdCampaign', 'San Francisco', 1);

INSERT INTO Project VALUES (4, 'SalesBoost', 'Los Angeles', 2);

INSERT INTO Project VALUES (5, 'HR', 'Paris', 2);

1. **Employee\_Project**

=> INSERT INTO Employee\_Project VALUES ('111223333', 1, 40);

INSERT INTO Employee\_Project VALUES ('222334555', 3, 35);

INSERT INTO Employee\_Project VALUES ('333445666', 2, 50);

INSERT INTO Employee\_Project VALUES ('444556777', 4, 45);

INSERT INTO Employee\_Project VALUES ('555667888', 2, 30);

1. **Dependent**

=> INSERT INTO Dependent VALUES ('111223333', 'Marketing', 'F', '10-MAR-2010', 'Wife');

INSERT INTO Dependent VALUES ('222334555', 'Sales', 'M', '19-AUG-1993', 'Son');

INSERT INTO Dependent VALUES ('333445666', 'Engineering', 'F', '22-APR-2017', 'Daughter');

INSERT INTO Dependent VALUES ('444556777', 'Marketing', 'F', '02-JAN-2005', 'Daughter');

INSERT INTO Dependent VALUES ('555667888', 'Sales', 'M', '15-JUL-2002', 'Son');

**7. Give 1000 rupees bonus to each employee.**

=> UPDATE employee SET salary=salary+1000;

**8. Increase the salary of the employees having salary <5000 by 500 rupees.**

=> UPDATE employee SET salary=salary+500 WHERE salary<5000;

**9. Give 100 rupees bonus to employees having salary less than 10000 rupees and birth date before 1990.**

=> UPDATE employee SET salary=salary+100 WHERE salary<10000 and bdate<'01-JAN-1990';

**10. Give 100 rupees bonus to employees having salary less than 10000 rupees or birth date before 1990.**

=> UPDATE employee SET salary=salary+100 WHERE salary<10000 or bdate<'01-JAN-1990';

**11. Give 100 rupees bonus to employees having salary between 1000 to 5000 rupees and birth date before 1990.**

=> UPDATE employee SET salary=salary+100 WHERE salary BETWEEN 1000 AND 5000 AND bdate<'01-JAN-1990';

**12. Give 100 rupees bonus to employees having salary between 1000, 3000 and 5000 rupees.**

=>UPDATE employee SET salary=salary+100 WHERE salary in (1000, 3000, 5000);

**13. Update phone number with 0000 where NULL.**

=> UPDATE employee SET phone\_no='0000' WHERE phone\_no IS NULL;

**14. Give 100 rupees bonus to employees having salary not between 1000 to 5000 rupees and birth date before 1990.**

=> UPDATE employee SET salary=salary+100 WHERE salary NOT BETWEEN 1000 AND 5000 AND bdate < TO\_DATE('01- JAN-1990', 'DD-MON-YYYY');

**15. Give 100 rupees bonus to employees having salary between 1000, 3000 and 5000 rupees.**

=> UPDATE employee SET salary=salary+100 WHERE salary in (1000, 3000, 5000);

**16. Delete from employee the rows having bdate less than 1970.**

=> DELETE FROM employee WHERE bdate < '01-JAN-1970';

**17. List the name and age of all employees.**

=> SELECT fname, mname, lname,(SYSDATE - BDATE)/365.25 as AGE from employee;

**18. Display the salaries offered to the employees.**

=> SELECT salary FROM employee;

**19. List the Bdate and Salary of Employee 'Smith'.**

=> SELECT bdate, salary FROM employee WHERE fname LIKE 'Smith';

**20. Find the location of Project 'SUPER'.**

=> SELECT proj\_location FROM project WHERE proj\_name='Super';

1. **Find the dependent details of Employee with Ssn number 482928.**

=> SELECT \* FROM dependent WHERE ssn='482928';

**22. List the employees having salary > 2000 and bdate before 1/1/1990.**

=> SELECT \* FROM employee WHERE salary > 2000 AND bdate < TO\_DATE('01-JAN-1990', 'DD-MON-YYYY');

**23. List the employees belonging to dept\_num 1.**

=> SELECT \* FROM employee WHERE dept\_num = 1;

**24. List the project details of dept\_num 5.**

=> SELECT \* FROM project WHERE dept\_num = 5;

**25. List the employee details with their department name.**

=> SELECT \* FROM employee JOIN department ON employee.dept\_num = department.dept\_num;

**26. List the employee details with their project names.**

=> SELECT \* FROM employee JOIN project ON employee.dept\_num = project.dept\_num;

**27. List the employees belonging to Marketing department.**

=> SELECT employee.\* FROM employee JOIN department ON employee.dept\_num = department.dept\_num WHERE department.dept\_name='Marketing';

**28. List the project details belonging of Sales department.**

=> SELECT \* FROM project WHERE dept\_name='Sales';

**29. List the dependent details of employee 'Smith'.**

=> SELECT dependent.\* FROM employee JOIN dependent ON employee.ssn=dependent.ssn AND employee.fname='Smith';

**30. List the various locations of 'Marketing' department.**

=> SELECT location FROM department\_locations;

**31. List the employees going to 'Surathkal' branch.**

=> SELECT employee.\* FROM employee JOIN department\_locations ON employee.dept\_num=department\_locations.dept\_num AND department\_locations.location='Surathkal';

**32. List the employees in the descending order of their salary.**

=> SELECT \* FROM employee ORDER BY salary DESC;

**33. List the dependents in the descending order of their names.**

=> SELECT dependent.\* FROM dependent JOIN employee ON dependent.ssn=employee.ssn ORDER BY employee.fname DESC;