**Assignment - 2**

1. Create the following tables with the following attributes and constraints on them.

a. Employee (Fname, mname, lname, Ssn, Bdate, address, gender, salary, Super\_Ssn,

Dept\_num)

Lname, Ssn, Dept\_num should be not null

b. Department (Dept\_num, Dept\_name, Mgr\_Ssn, Mgr\_startdate)

Dept\_name should be unique

c. Department\_locations (Dept\_num, location)

Dept\_num and location both are primary key

Dept\_num is foreign key

d. Project (Proj\_num, Proj\_name, Proj\_location, Dept\_num)

e. Employee\_Project (Ssn, Proj\_num, Hours)

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

1.

CREATE TABLE Employee (

Fname VARCHAR(10),

Mname VARCHAR(5),

Lname VARCHAR(10) NOT NULL,

Ssn VARCHAR(11) NOT NULL PRIMARY KEY,

Bdate DATE,

Address VARCHAR(15),

Gender CHAR(1),

Salary DECIMAL(8,2),

Super\_Ssn VARCHAR(11),

Dept\_num INT NOT NULL

);

CREATE TABLE Department (

Dept\_num INT PRIMARY KEY,

Dept\_name VARCHAR(10) UNIQUE,

Mgr\_Ssn VARCHAR(11),

Mgr\_startdate DATE,

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

);

CREATE TABLE Department\_locations (

Dept\_num INT,

Location VARCHAR(10),

PRIMARY KEY (Dept\_num, Location),

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

);

CREATE TABLE Project (

Proj\_num INT PRIMARY KEY,

Proj\_name VARCHAR(6),

Proj\_location VARCHAR(10),

Dept\_num INT,

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

);

CREATE TABLE Employee\_Project (

Ssn VARCHAR(11),

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)

);

CREATE TABLE Dependent (

Ssn VARCHAR(11),

Dept\_name VARCHAR(10),

Gender CHAR(1),

Bdate DATE,

Relationship VARCHAR(8),

PRIMARY KEY (Ssn, Dept\_name),

FOREIGN KEY (Ssn) REFERENCES Employee(Ssn)

);

2. Add two columns to Employee table

ALTER TABLE Employee ADD COLUMN blood\_group VARCHAR(10);

ALTER TABLE Employee ADD COLUMN hobbies VARCHAR(10);

-- 2. Add blood\_group column (Oracle syntax)

ALTER TABLE Employee ADD (blood\_group VARCHAR2(10));

-- 3. Increase size of blood\_group column (Oracle syntax)

ALTER TABLE Employee MODIFY (blood\_group VARCHAR2(15));

-- 4. Drop hobbies column (Oracle syntax)

ALTER TABLE Employee DROP COLUMN hobbies;

3. Increase size of blood\_group column

ALTER TABLE Employee MODIFY COLUMN blood\_group VARCHAR(15);

4. Drop hobbies column

ALTER TABLE Employee DROP COLUMN hobbies;

-- 5. Rename Employee table

ALTER TABLE Employee RENAME TO Employee\_details;

-- 6. Insert sample data (5 records in each table)

-- Insert into Employee\_details

INSERT INTO Employee\_details VALUES

('John', 'A', 'Smith', '123456789', '1985-05-15', '123 Main St', 'M', 8000.00, NULL, 1, 'A+'),

('Jane', 'B', 'Doe', '234567890', '1990-08-20', '456 Oak Ave', 'F', 4500.00, '123456789', 1, 'B+'),

('Robert', 'C', 'Johnson', '345678901', '1965-03-10', '789 Pine Rd', 'M', 3000.00, '123456789', 2, 'O+'),

('Emily', 'D', 'Williams', '456789012', '1988-11-25', '321 Elm St', 'F', 2500.00, '234567890', 3, 'AB+'),

('Michael', 'E', 'Brown', '567890123', '1975-07-30', '654 Maple Ave', 'M', 12000.00, NULL, 2, 'A-');

INSERT INTO Department VALUES

(1, 'Marketing', '123456789', '2015-01-10'),

(2, 'Sales', '567890123', '2016-03-15'),

(3, 'IT', '234567890', '2017-05-20'),

(4, 'HR', '345678901', '2018-07-25'),

(5, 'Finance', '456789012', '2019-09-30');

-- Insert into Department\_locations

INSERT INTO Department\_locations VALUES

(1, 'Surathkal'),

(1, 'Bangalore'),

(2, 'Mumbai'),

(3, 'Surathkal'),

(4, 'Delhi'),

(5, 'Chennai');

-- Insert into Project

INSERT INTO Project VALUES

(101, 'SUPER', 'Surathkal', 1),

(102, 'NOVA', 'Bangalore', 2),

(103, 'STAR', 'Mumbai', 3),

(104, 'MOON', 'Delhi', 4),

(105, 'SUN', 'Chennai', 5);

-- Insert into Employee\_Project

INSERT INTO Employee\_Project VALUES

('123456789', 101, 40.00),

('234567890', 102, 35.50),

('345678901', 103, 20.00),

('456789012', 104, 15.75),

('567890123', 105, 10.25);

-- Insert into Dependent

INSERT INTO Dependent VALUES

('123456789', 'Marketing', 'F', '2010-06-15', 'Daughter'),

('234567890', 'Sales', 'M', '2012-09-20', 'Son'),

('345678901', 'IT', 'F', '2015-12-25', 'Daughter'),

('456789012', 'HR', 'M', '2018-03-30', 'Son'),

('567890123', 'Finance', 'F', '2020-07-10', 'Daughter');

-- 7. Give 1000 rupees bonus to each employee

UPDATE Employee\_details SET Salary = Salary + 1000;

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

UPDATE Employee\_details SET Salary = Salary + 500 WHERE Salary < 5000;

-- 9. Give 100 bonus to employees with salary <10000 and birth date before 1990

UPDATE Employee\_details SET Salary = Salary + 100

WHERE Salary < 10000 AND Bdate < '1990-01-01';

-- 10. Give 100 bonus to employees with salary <10000 or birth date before 1990

UPDATE Employee\_details SET Salary = Salary + 100

WHERE Salary < 10000 OR Bdate < '1990-01-01';

-- 11. Give 100 bonus to employees with salary between 1000-5000 and birth date before 1990

UPDATE Employee\_details SET Salary = Salary + 100

WHERE Salary BETWEEN 1000 AND 5000 AND Bdate < '1990-01-01';

-- 12. Give 100 bonus to employees with salary between 1000, 3000 and 5000

UPDATE Employee\_details SET Salary = Salary + 100

WHERE Salary IN (1000, 3000, 5000);

-- 13. Update phone number with 0000 where NULL

-- Assuming we need to add a phone column first

ALTER TABLE Employee\_details ADD COLUMN phone VARCHAR(15);

UPDATE Employee\_details SET phone = '0000' WHERE phone IS NULL;

-- 14. Give 100 bonus to employees with salary not between 1000-5000 and birth date before 1990

UPDATE Employee\_details SET Salary = Salary + 100

WHERE Salary NOT BETWEEN 1000 AND 5000 AND Bdate < '1990-01-01';

-- 15. Give 100 bonus to employees with salary between 1000, 3000 and 5000 (same as 12)

UPDATE Employee\_details SET Salary = Salary + 100

WHERE Salary IN (1000, 3000, 5000);

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

DELETE FROM Employee\_details WHERE Bdate < '1970-01-01';

-- 17. List name and age of all employees

SELECT CONCAT(Fname, ' ', Lname) AS Name,

TIMESTAMPDIFF(YEAR, Bdate, CURDATE()) AS Age

FROM Employee\_details;

-- 18. Display salaries offered to employees

SELECT Fname, Lname, Salary FROM Employee\_details;

-- 19. List Bdate and Salary of Employee 'Smith'

SELECT Bdate, Salary FROM Employee\_details WHERE Lname = 'Smith';

-- 20. Find location of Project 'SUPER'

SELECT Proj\_location FROM Project WHERE Proj\_name = 'SUPER';

-- 21. Find dependent details of Employee with Ssn 482928

-- (Assuming we need to use one of our sample SSNs)

SELECT \* FROM Dependent WHERE Ssn = '123456789';

-- 22. List employees with salary > 2000 and bdate before 1/1/1990

SELECT \* FROM Employee\_details

WHERE Salary > 2000 AND Bdate < '1990-01-01';

-- 23. List employees belonging to dept\_num 1

SELECT \* FROM Employee\_details WHERE Dept\_num = 1;

-- 24. List project details of dept\_num 5

SELECT \* FROM Project WHERE Dept\_num = 5;

-- 25. List employee details with their department name

SELECT e.\*, d.Dept\_name

FROM Employee\_details e

JOIN Department d ON e.Dept\_num = d.Dept\_num;

-- 26. List employee details with their project names

SELECT e.\*, p.Proj\_name

FROM Employee\_details e

JOIN Employee\_Project ep ON e.Ssn = ep.Ssn

JOIN Project p ON ep.Proj\_num = p.Proj\_num;

-- 27. List employees belonging to Marketing department

SELECT e.\*

FROM Employee\_details e

JOIN Department d ON e.Dept\_num = d.Dept\_num

WHERE d.Dept\_name = 'Marketing';

-- 28. List project details belonging to Sales department

SELECT p.\*

FROM Project p

JOIN Department d ON p.Dept\_num = d.Dept\_num

WHERE d.Dept\_name = 'Sales';

-- 29. List dependent details of employee 'Smith'

SELECT d.\*

FROM Dependent d

JOIN Employee\_details e ON d.Ssn = e.Ssn

WHERE e.Lname = 'Smith';

-- 30. List various locations of 'Marketing' department

SELECT dl.Location

FROM Department\_locations dl

JOIN Department d ON dl.Dept\_num = d.Dept\_num

WHERE d.Dept\_name = 'Marketing';

-- 31. List employees going to 'Surathkal' branch

SELECT DISTINCT e.\*

FROM Employee\_details e

JOIN Employee\_Project ep ON e.Ssn = ep.Ssn

JOIN Project p ON ep.Proj\_num = p.Proj\_num

WHERE p.Proj\_location = 'Surathkal';

-- 32. List employees in descending order of their salary

SELECT \* FROM Employee\_details ORDER BY Salary DESC;

-- 33. List dependents in descending order of their names

-- Assuming name is in Dept\_name column (as per table structure)

SELECT \* FROM Dependent ORDER BY Dept\_name DESC;