

# DBS Assignment II

## 1. Consider the following Company database:

```
EMPLOYEE (Name, Ssn, Bdate, Address, 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, Bdate, Relationship)
```

Give an expression in SQL to express each of the following queries:

- a. Increase the salary of employees who works on the project 'LIFELINE-2020' by 20% and all others by 10%.

```
UPDATE Employee E
SET Salary = CASE
    WHEN
        E.Ssn IN (SELECT Essn
                  FROM Works_on
                  WHERE Pno IN (SELECT Pnumber
                                FROM Project
                                WHERE Pname = 'LIFELINE-2020'))
    THEN Salary * 1.20
    ELSE
        Salary * 1.10;
```

- b. Assign the project "PRODUCT-X"(PNO=111) to employees of research department.

```
INSERT INTO Works_on
SELECT Ssn, 111, 0
FROM Employee E
WHERE E.Dno IN (SELECT Dnumber
                 FROM Department
                 WHERE DName = 'Research');
```

- c. Remove all the dependents of age above 21 as on date.

```
DELETE FROM Dependent
WHERE YEAR((SELECT sysdate FROM dual) - Bdate) = 21;
```

2. Create a view that has the employee last name, project name, and hours per week for each employee working on a project.

```
CREATE VIEW Emp_Works_Proj AS
  SELECT Name, PName, Hours
  FROM Employee, Works_on, Project
  WHERE Ssn = Essn AND Pno = Pnumber;
```

Give an example of view modification for each of the following operation.

**a. Insert**

```
INSERT INTO Emp_Works_Proj
  VALUES ('Reese', 'Field', 127);
```

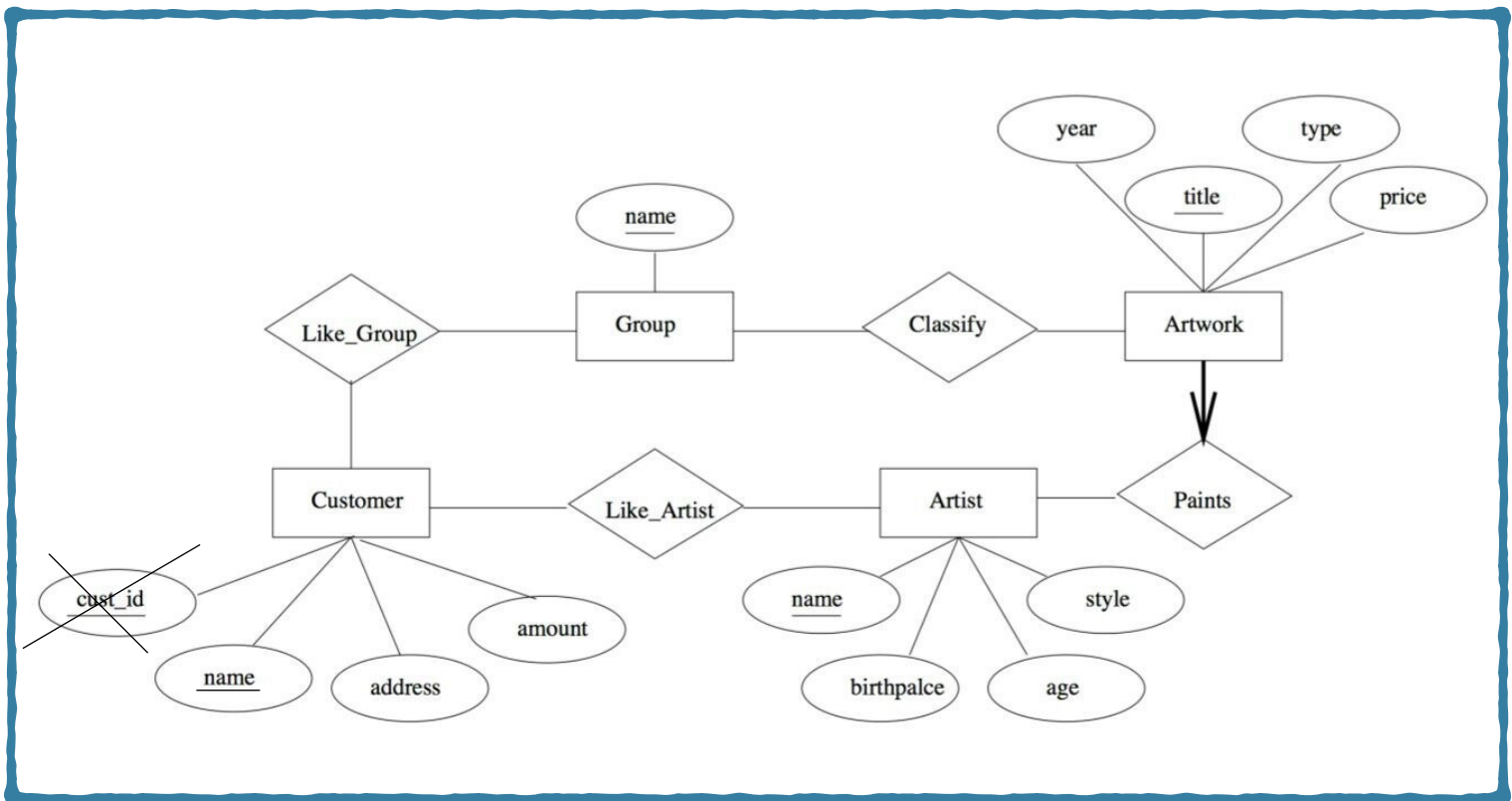
**b. Delete**

```
DELETE FROM Emp_Works_Proj
  WHERE PName = 'Field';
```

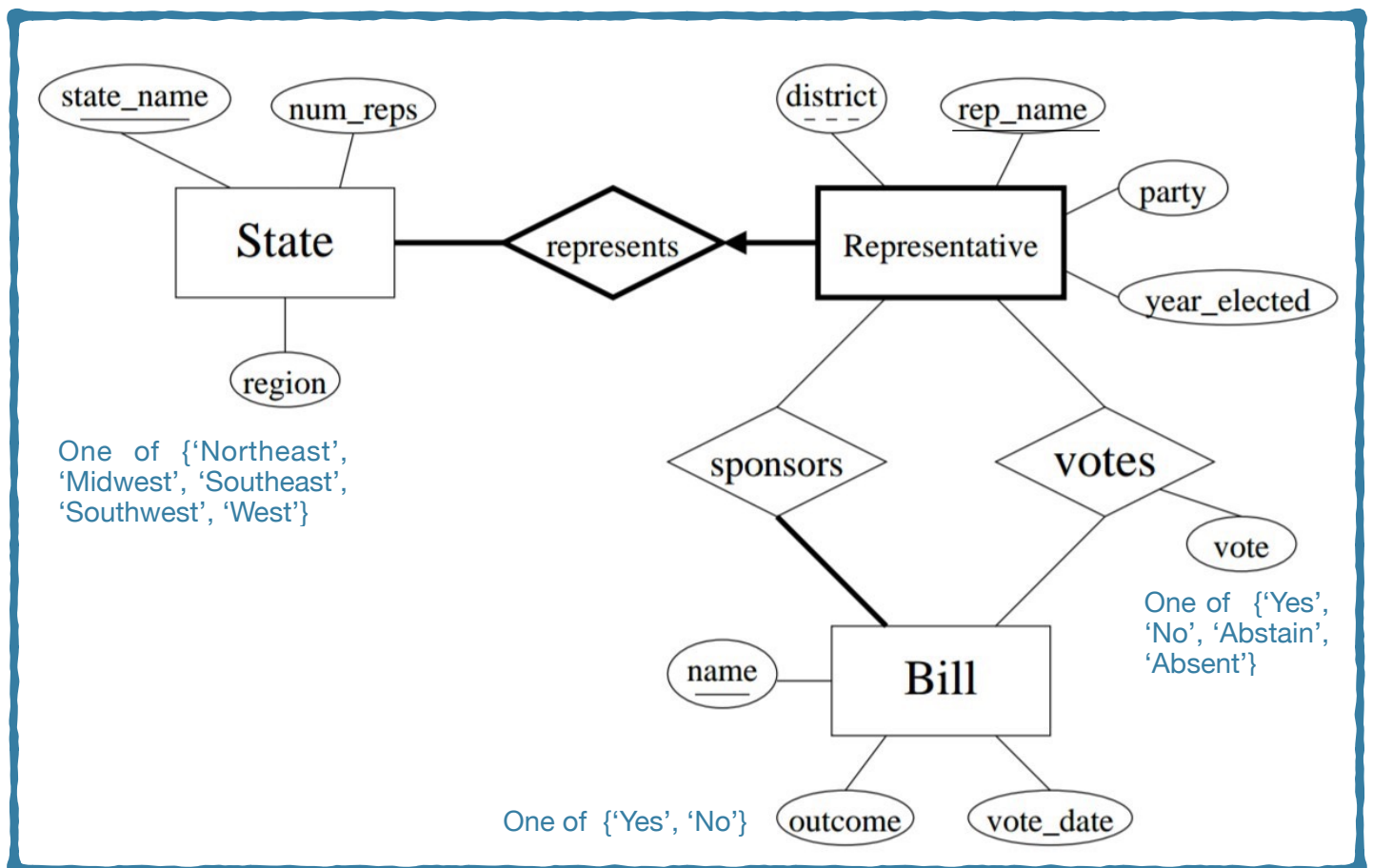
**c. Update**

```
UPDATE Emp_Works_Proj EWP
  SET Hours = Hours * 0.95;
```

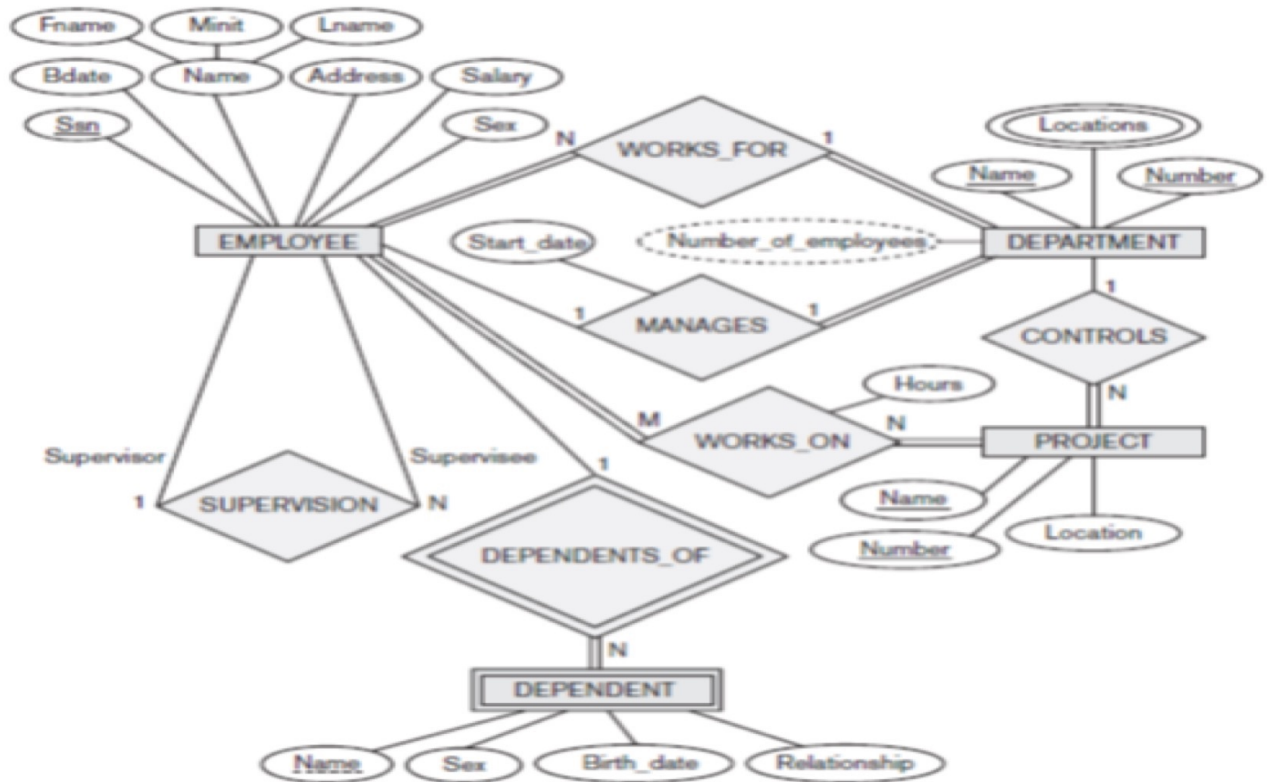
3. ArtBase Galleries keep information about artists, their names (which are unique), birthplaces, age, and style of art. For each piece of artwork, the artist, the year it was made, its unique title, its type of art (e.g., painting, lithograph, sculpture, photograph), and its price must be stored. Pieces of artwork are also classified into groups of various kinds, for example, portraits, still lifes, works by Picasso, or works of the 19th century; a given piece may belong to more than one group. Each group is identified by a name (like those just given) that describes the group. Finally, galleries keep information about customers. For each customer, galleries keep that person's unique name, address, total amount of dollars spent in the gallery (very important!), and the artists and groups of art that the customer tends to like. Draw the ER diagram for the database. State clearly any assumptions you make.



4. Design an ER schema for keeping track of information about votes taken in the U.S. House of Representatives during the current two-year congressional session. The database needs to keep track of each U.S. STATE's Name (e.g., 'Texas', 'New York', 'California') and include the Region of the state (whose domain is {'Northeast', 'Midwest', 'Southeast', 'Southwest', 'West'}). Each CONGRESS\_PERSON in the House of Representatives is described by his or her Name, plus the District represented, the Start\_date when the congressperson was first elected, and the political Party to which he or she belongs (whose domain is {'Republican', 'Democrat', 'Independent', 'Other'}). The database keeps track of each BILL (i.e., proposed law), including the Bill\_name, the Date\_of\_vote on the bill, whether the bill Passed\_or\_failed (whose domain is {'Yes', 'No'}), and the Sponsor (the congressperson(s) who sponsored—that is, proposed—the bill). The database also keeps track of how each congressperson voted on each bill (domain of Vote attribute is {'Yes', 'No', 'Abstain', 'Absent'}). Draw an ER schema diagram for this application. State clearly any assumptions you make.



5. Convert the following ER Diagram to relational schema.



This is the answer!

PS: Convert it into the box format maybe

