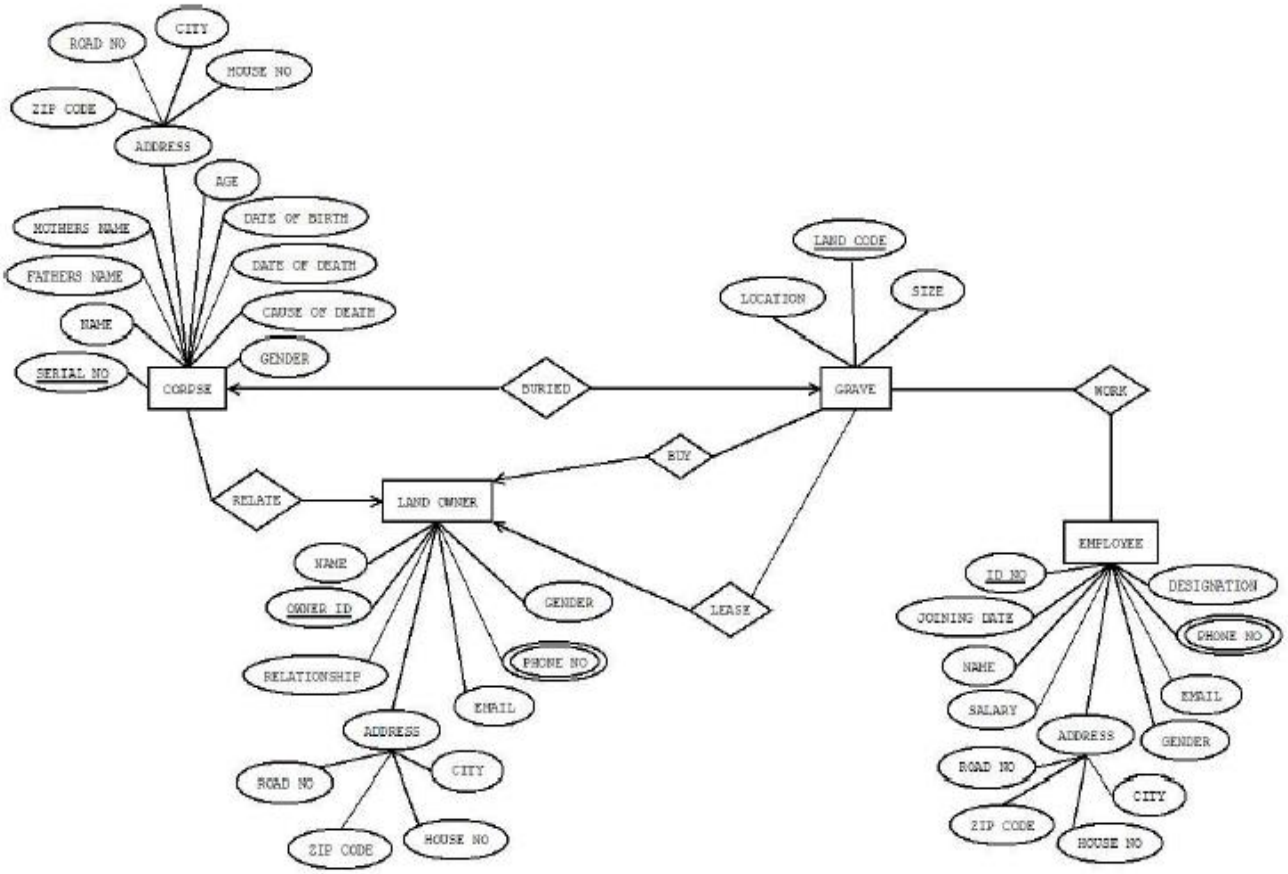
Name	ID	STUDENT SIGN
Ahmed, Munim	20-43303-1	Munim

Class Test 04

1. Normalize the ER Diagram given below up to 3rd Normal Form and finalize the tables that needs to be created. Then (in Oracle using SQL) write down the queries that are required to create all the tables with necessary constraints. Also insert at least 3 rows of data in each created table.



Answer Box (Normalization steps in detail as shown in Normalization Tutorial Slide + all the queries required to create the tables and insert data after Normalization):

Corpse Table:

UNF:

Corpse(SERIAL_NO, Name, Father's Name, Mother's Name, Address, Zip Code, Road No, City, House No, Age, Date of Birth, Date of Death, Cause of Death, Gender)

1NF:

Corpse(SERIAL_NO, Name, Father's Name, Mother's Name, Zip Code, Road No, City, House No, Age, Date of Birth, Date of Death, Cause of Death, Gender)

Address(SERIAL_NO, , Zip Code, Road No, City, House No)

2NF:

Corpse(SERIAL_NO, Name, Father's Name, Mother's Name, Age, Date of Birth, Date of Death, Cause of Death, Gender)

Address(SERIAL_NO, Zip Code, Road No, City, House No)

3NF:

Corpse(SERIAL_NO, Name, Father's Name, Mother's Name, Age, Date of Birth, Date of Death, Cause of Death, Gender)

Address(SERIAL_NO, Zip Code, Road No, City, House No)

Grave Table:

Already in 3NF

Employee Table:

UNF:

Employee(ID_No, Joining Date, Name, Salary, Designation, Phone No, Email, Gender, Address, Zip Code, Road No, City, House No)

1NF:

Employee(ID_No, Joining Date, Name, Salary, Designation, Email, Gender)

Phone_No(ID_No, Phone No)

Address(ID_No, Zip Code, Road No, City, House No)

2NF:

Employee(ID_No, Joining Date, Name, Salary, Designation, Email, Gender)

Phone_No(ID_No, Phone No)

Address(ID_No, Zip Code, Road No, City, House No)

3NF:

Employee(ID_No, Joining Date, Name, Salary, Designation, Email, Gender)

Phone_No(ID_No, Phone No)

Address(ID_No, Zip Code, Road No, City, House No)

Land Owner Table:

UNF:

Land_Owner(Name, Owner_ID, Relationship, Email, Gender, Phone No, Address, Zip Code, Road No, City, House No)

1NF:

Land_Owner(Name, Owner_ID, Relationship, Email, Gender)

Phone_No(Owner_ID, Phone No)

Address(Owner_ID, Zip Code, Road No, City, House No)

2NF:

Land_Owner(Name, Owner_ID, Relationship, Email, Gender)

Phone_No(Owner_ID, Phone No)

Address(Owner_ID, Zip Code, Road No, City, House No)

3NF:

Land_Owner(Name, Owner_ID, Relationship, Email, Gender)

Phone_No(Owner_ID, Phone No)

Address(Owner_ID, Zip Code, Road No, City, House No)

Final Tables:

Corpse:

SERIAL_NO, Name, Father's Name, Mother's Name, Age, Date of Birth, Date of Death, Cause of Death, Gender

Address:

SERIAL_NO, Zip Code, Road No , City, House No

Grave:

Location, Land Code, Size

Employee:

ID_No, Joining Date, Name, Salary, Designation, Email, Gender

Employee_Phone:

ID_No, Phone NO

Employee_Address:

ID_No, Zip Code, Road No, City, House No

Land Owner:

Name, Owner_ID, Relationship, Email, Gender

Land_Owner_Phone:

Owner_ID, Phone NO

Land_Owner_Address:

Owner_ID, Zip Code, Road No, City, House No

Burial:

SERIAL_NO, Land Code, Owner_ID

The Burial table is created as a bridge table to associate corpses with the land owner and the grave in which they are buried.

SQL Queries for Creating Table:

```
-- Create Corpse table
CREATE TABLE Corpse (
    SERIAL_NO INT PRIMARY KEY,
    Name VARCHAR(50),
    FatherName VARCHAR(50),
    MotherName VARCHAR(50),
    Age INT,
    DateOfBirth DATE,
    DateOfDeath DATE,
    CauseOfDeath VARCHAR(100),
    Gender VARCHAR(10)
);
-- Create Address table
CREATE TABLE Address (
    SERIAL_NO INT PRIMARY KEY,
    ZipCode INT,
    RoadNo INT,
    City VARCHAR(50),
    HouseNo INT,
    FOREIGN KEY (SERIAL_NO) REFERENCES Corpse(SERIAL_NO)
);
-- Create Grave table
CREATE TABLE Grave (
    LandCode INT PRIMARY KEY,
```

```
    Grave_Location VARCHAR(100),
    Grave_Size VARCHAR(10)
);
-- Create Employee table
CREATE TABLE Employee (
    ID_No INT PRIMARY KEY,
    JoiningDate DATE,
    Name VARCHAR(50),
    Salary FLOAT,
    Designation VARCHAR(50),
    Email VARCHAR(50),
    Gender VARCHAR(10)
);
-- Create Employee_Phone table
CREATE TABLE Employee_Phone (
    ID_No INT,
    PhoneNo VARCHAR(20),
    FOREIGN KEY (ID_No) REFERENCES Employee(ID_No)
);

-- Create Employee_Address table
CREATE TABLE Employee_Address (
    ID_No INT,
    ZipCode INT,
    RoadNo INT,
```

```
    City VARCHAR(50),
    HouseNo INT,
    FOREIGN KEY (ID_No) REFERENCES Employee(ID_No)
);
-- Create Land Owner table
CREATE TABLE Land_Owner (
    Owner_ID INT PRIMARY KEY,
    Name VARCHAR(50),
    Relationship VARCHAR(50),
    Email VARCHAR(50),
    Gender VARCHAR(10)
);
-- Create Land_Owner_Phone table
CREATE TABLE Land_Owner_Phone (
    Owner_ID INT,
    PhoneNo VARCHAR(20),
    FOREIGN KEY (Owner_ID) REFERENCES Land_Owner(Owner_ID)
);
-- Create Land_Owner_Address table
CREATE TABLE Land_Owner_Address (
    Owner_ID INT,
    ZipCode INT,
    RoadNo INT,
    City VARCHAR(50),
    HouseNo INT,
```

```
    FOREIGN KEY (Owner_ID) REFERENCES Land_Owner(Owner_ID)
);
-- Create Burial table
CREATE TABLE Burial (
    SERIAL_NO INT,
    LandCode INT,
    Owner_ID INT,
    PRIMARY KEY (SERIAL_NO, LandCode),
    FOREIGN KEY (SERIAL_NO) REFERENCES Corpse(SERIAL_NO),
    FOREIGN KEY (LandCode) REFERENCES Grave(LandCode),
    FOREIGN KEY (Owner_ID) REFERENCES Land_Owner(Owner_ID)
);
```

SQL Queries for Inserting Data into Table:

Corpse Table-

```
INSERT INTO Corpse (SERIAL_NO, Name, FatherName, MotherName, Age, DateOfBirth, DateOfDeath, CauseOfDeath, Gender) VALUES (1, 'John Doe', 'Bob Doe', 'Alice Doe', 35, TO_DATE('01-01-1988', 'DD-MM-YYYY'), TO_DATE('01-01-2023', 'DD-MM-YYYY'), 'Heart attack', 'Male');

INSERT INTO Corpse (SERIAL_NO, Name, FatherName, MotherName, Age, DateOfBirth, DateOfDeath, CauseOfDeath, Gender) VALUES (2, 'Jane Doe', 'Bob Doe', 'Alice Doe', 28, TO_DATE('01-01-1995', 'DD-MM-YYYY'), TO_DATE('01-01-2023', 'DD-MM-YYYY'), 'Car accident', 'Female');

INSERT INTO Corpse (SERIAL_NO, Name, FatherName, MotherName, Age, DateOfBirth, DateOfDeath, CauseOfDeath, Gender) VALUES (3, 'Mark Smith', 'John Smith', 'Mary Smith', 50, TO_DATE('01-01-1973', 'DD-MM-YYYY'), TO_DATE('01-01-2023', 'DD-MM-YYYY'), 'Cancer', 'Male');
```

Address Table-

```
INSERT INTO Address (SERIAL_NO, ZipCode, RoadNo, City, HouseNo) VALUES (1, 1000, 10, 'Dhaka', 20);

INSERT INTO Address (SERIAL_NO, ZipCode, RoadNo, City, HouseNo) VALUES (2, 1200, 12, 'Chittagong', 24);
```

INSERT INTO Address (SERIAL_NO, ZipCode, RoadNo, City, HouseNo) VALUES (3, 1100, 8, 'Sylhet', 15);

Grave Table-

INSERT INTO Grave (LandCode, Grave_Location, Grave_Size) VALUES (1001, 'North-West', 'Small');

INSERT INTO Grave (LandCode, Grave_Location, Grave_Size) VALUES (1002, 'South-East', 'Medium');

INSERT INTO Grave (LandCode, Grave_Location, Grave_Size) VALUES (1003, 'South-West', 'Large');

Employee Table-

INSERT INTO Employee (ID_No, JoiningDate, Name, Salary, Designation, Email, Gender) VALUES (101, TO_DATE('2019-05-01', 'yyyy-mm-dd'), 'John Doe', 50000.00, 'Manager', 'johndoe@example.com', 'Male');

INSERT INTO Employee (ID_No, JoiningDate, Name, Salary, Designation, Email, Gender) VALUES (102, TO_DATE('2020-02-15', 'yyyy-mm-dd'), 'Jane Doe', 40000.00, 'Supervisor', 'janedoe@example.com', 'Female');

INSERT INTO Employee (ID_No, JoiningDate, Name, Salary, Designation, Email, Gender) VALUES (103, TO_DATE('2021-03-10', 'yyyy-mm-dd'), 'Alex Smith', 45000.00, 'Labor', 'alexsmith@example.com', 'Male');

Employee Phone Table-

INSERT INTO Employee_Phone (ID_No, PhoneNo) VALUES (101, '123-456-7890');

INSERT INTO Employee_Phone (ID_No, PhoneNo) VALUES (102, '234-567-8901');

INSERT INTO Employee_Phone (ID_No, PhoneNo) VALUES (103, '345-678-9012');

Employee Address Table-

INSERT INTO Employee_Address (ID_No, ZipCode, RoadNo, City, HouseNo) VALUES

(101, 1234, 12, 'Dhaka', 2);

INSERT INTO Employee_Address (ID_No, ZipCode, RoadNo, City, HouseNo) VALUES

(102, 2345, 20, 'Chittagong', 5);

INSERT INTO Employee_Address (ID_No, ZipCode, RoadNo, City, HouseNo) VALUES

(103, 3456, 8, 'Rajshahi', 9);

Land Owner Table-

INSERT INTO Land_Owner (Owner_ID, Name, Relationship, Email, Gender) VALUES (2001, 'James Johnson', 'Brother', 'james.johnson@example.com', 'Male');

INSERT INTO Land_Owner (Owner_ID, Name, Relationship, Email, Gender) VALUES (2002, 'Emily Davis', 'Sister', 'emily.davis@example.com', 'Female');

INSERT INTO Land_Owner (Owner_ID, Name, Relationship, Email, Gender) VALUES (2003, 'David Wilson', 'Father', 'david.wilson@example.com', 'Male');

Land Owner Phone Table-

INSERT INTO Land_Owner_Phone (Owner_ID, PhoneNo) VALUES (2001, '0123456789');

INSERT INTO Land_Owner_Phone (Owner_ID, PhoneNo) VALUES (2002, '0198765432');

INSERT INTO Land_Owner_Phone (Owner_ID, PhoneNo) VALUES (2003, '0112233445');

Land Owner Address Table-

INSERT INTO Land_Owner_Address (Owner_ID, ZipCode, RoadNo, City, HouseNo) VALUES

(2001, 1234, 12, 'Dhaka', 2);

INSERT INTO Land_Owner_Address (Owner_ID, ZipCode, RoadNo, City, HouseNo) VALUES

(2002, 2345, 20, 'Chittagong', 5);

INSERT INTO Land_Owner_Address (Owner_ID, ZipCode, RoadNo, City, HouseNo) VALUES

(2003, 3456, 8, 'Rajshahi', 9);

Burial Table-

INSERT INTO Burial (SERIAL_NO, LandCode, Owner_ID) VALUES (1, 1001, 2001);

INSERT INTO Burial (SERIAL_NO, LandCode, Owner_ID) VALUES (2, 1002, 2002);

INSERT INTO Burial (SERIAL_NO, LandCode, Owner_ID) VALUES (3, 1003, 2003);