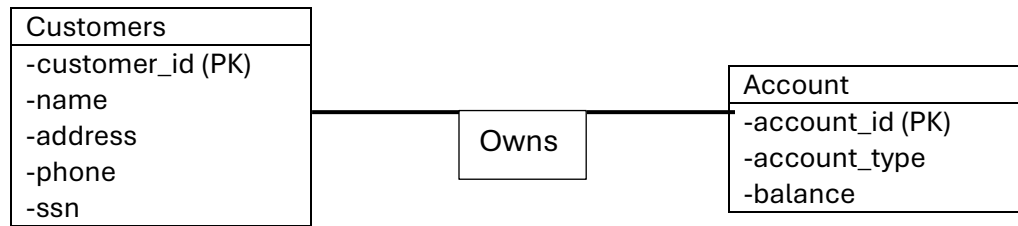


Nathan Gopee

CPS 393

Q1.



```
CREATE TABLE Customers (  
    customer_id INT AUTO_INCREMENT PRIMARY KEY,  
    name VARCHAR(100),  
    address VARCHAR(255),  
    phone VARCHAR(15),  
    ssn CHAR(9)  
);  
  
CREATE TABLE Accounts (  
    account_id INT AUTO_INCREMENT PRIMARY KEY,  
    account_type VARCHAR(20),  
    balance DECIMAL(15, 2)  
);  
  
CREATE TABLE CustomerAccount (  
    customer_id INT,  
    account_id INT,  
    PRIMARY KEY (customer_id, account_id),  
    FOREIGN KEY (customer_id) REFERENCES Customers(customer_id),  
    FOREIGN KEY (account_id) REFERENCES Accounts(account_id)  
);
```

Q2.

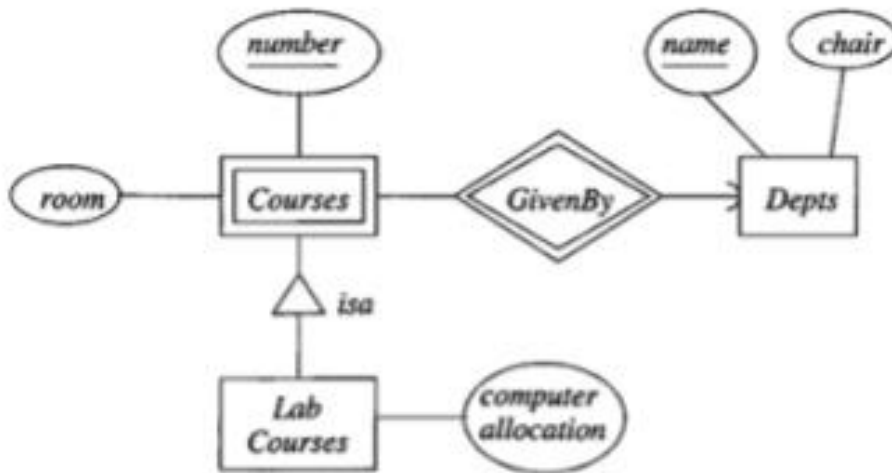


Figure 4.32: E/R diagram for Exercise 4.6.1

```
CREATE TABLE Departments (  
    name VARCHAR(50) PRIMARY KEY,  
    chair VARCHAR(100)  
);
```

```
CREATE TABLE Courses (  
    number INT PRIMARY KEY,  
    room VARCHAR(50),  
    dept_name VARCHAR(50),  
    FOREIGN KEY (dept_name) REFERENCES Departments(name)  
);
```

```
CREATE TABLE LabCourses (  
    number INT PRIMARY KEY,  
    computer_allocation VARCHAR(50),  
    FOREIGN KEY (number) REFERENCES Courses(number)
```

);

```
CREATE TABLE Person (  
    person_id INT AUTO_INCREMENT PRIMARY KEY,  
    name VARCHAR(100),  
    address VARCHAR(255)
```

);

```
CREATE TABLE ChildOf (  
    child_id INT,  
    father_id INT,  
    mother_id INT,  
    PRIMARY KEY (child_id),  
    FOREIGN KEY (child_id) REFERENCES Person(person_id),  
    FOREIGN KEY (father_id) REFERENCES Person(person_id),  
    FOREIGN KEY (mother_id) REFERENCES Person(person_id)
```

);

```
CREATE TABLE Married (  
    father_id INT,  
    mother_id INT,  
    PRIMARY KEY (father_id, mother_id),  
    FOREIGN KEY (father_id) REFERENCES Person(person_id),  
    FOREIGN KEY (mother_id) REFERENCES Person(person_id)
```

);

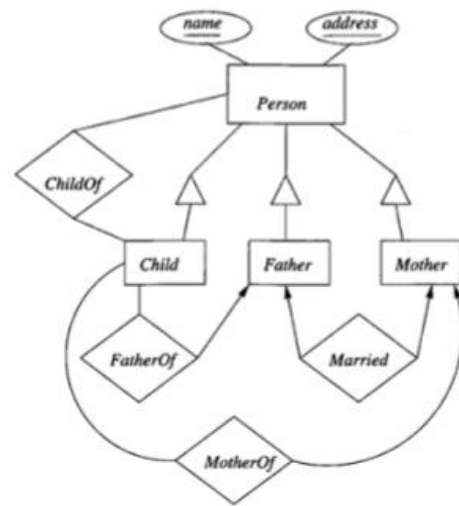


Figure 4.33: E/R diagram for Exercise 4.6.2

Q3.

```
mysql> SHOW TABLES;
+-----+
| Tables_in_world |
+-----+
| city             |
| country          |
| countrylanguage  |
+-----+
3 rows in set (0.00 sec)

mysql> SELECT COUNT(*) AS num_of_cities
-> FROM city
-> WHERE CountryCode = 'USA';
+-----+
| num_of_cities |
+-----+
|          275 |
+-----+
1 row in set (0.00 sec)

mysql> SELECT COUNT(*) AS num_of_cities_starting_with_A
-> FROM city
-> WHERE Name LIKE 'A%';
+-----+
| num_of_cities_starting_with_A |
+-----+
|                   260 |
+-----+
1 row in set (0.01 sec)

mysql> SELECT Population, AVG(LifeExpectancy) AS avg_life_expectancy
-> FROM country
-> WHERE Code = 'ARG';
+-----+
| Population | avg_life_expectancy |
+-----+
|  37032000 |          75.10000 |
+-----+
1 row in set (0.01 sec)

mysql> SELECT Name, LifeExpectancy
-> FROM country
-> ORDER BY LifeExpectancy DESC
-> LIMIT 1;
+-----+
| Name      | LifeExpectancy |
+-----+
| Andorra   |          83.5 |
+-----+
1 row in set (0.00 sec)

mysql> SELECT Name
-> FROM city
-> WHERE Name LIKE 'F%'
-> LIMIT 5;
+-----+
| Name      |
+-----+
| Fagatogo  |
| Florencio Varela |
| Formosa   |
| Francistown |
| Fortaleza |
+-----+
5 rows in set (0.00 sec)
```