

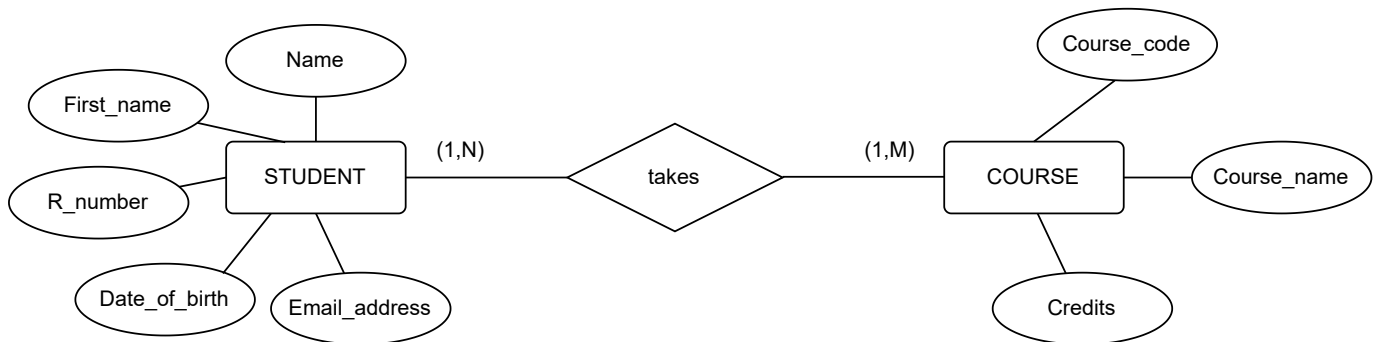
DATABASE FOUNDATIONS

Assignment 2

Shabnam Heidaripour

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2.1. A student takes a course



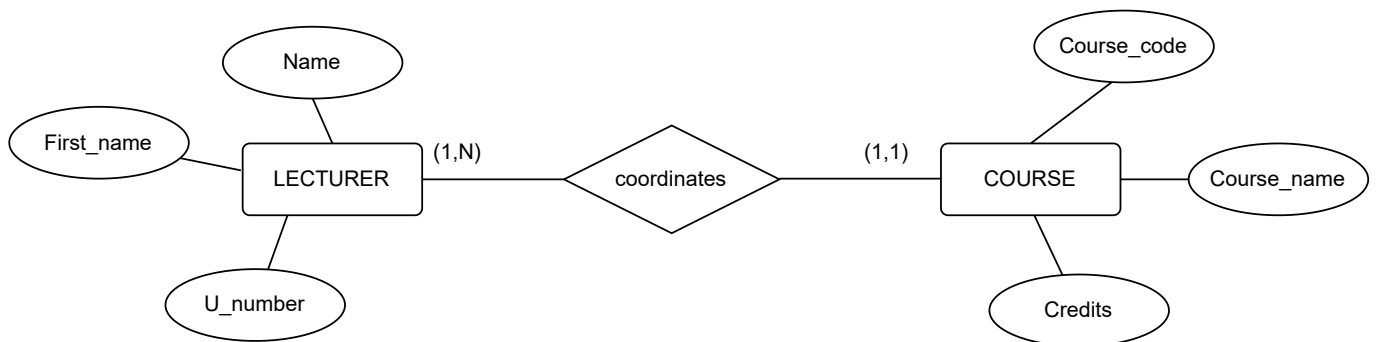
Comments:

In this diagram, the entity types are **STUDENT** and **COURSE**, the attributes are mentioned in the ovals. The diamond "takes" is the relationship between the student and the course.

A student cannot exist without taking a course, and at least one student has to take the course for it to exist.

A student can take multiple courses, and a course can have multiple students.

2.2. A lecturer is a coordinator of a course

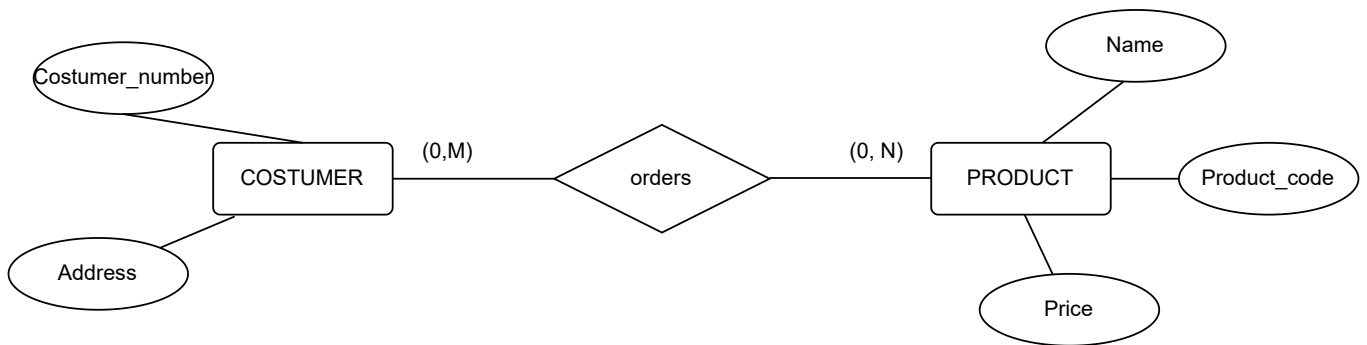


In the above diagram, we have two Entity types LECTURER and COURSE. The attributes are shown in oval shapes. The diamond shows their relationship which is "coordinate".

A lecturer can coordinate multiple courses, however a course cannot be coordinated by multiple lecturers.

A lecturer can exist without coordinating any course, however, a course cannot exist without a lecturer who coordinates it.

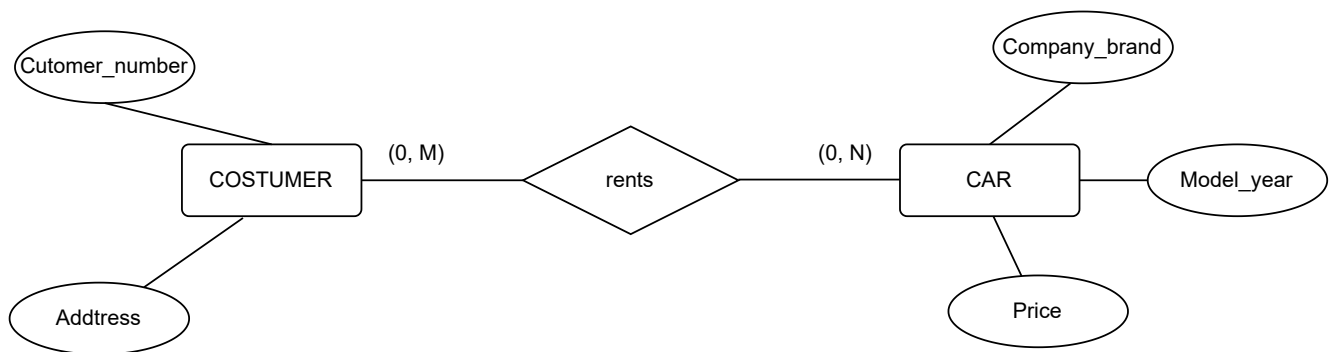
2.3. A costumer orders a product



COSTUMER and **PRODUCT** are the Entity types of this diagram, the attributes for each are shown in the oval shapes. Their relationship is in the diamond as "order".

A customer can order multiple products, and each product can be bought by multiple customers. So, a costumer can exist without ordering a product, and a product can exist without a costumer ordering it.

2.4. A costumer rents a car

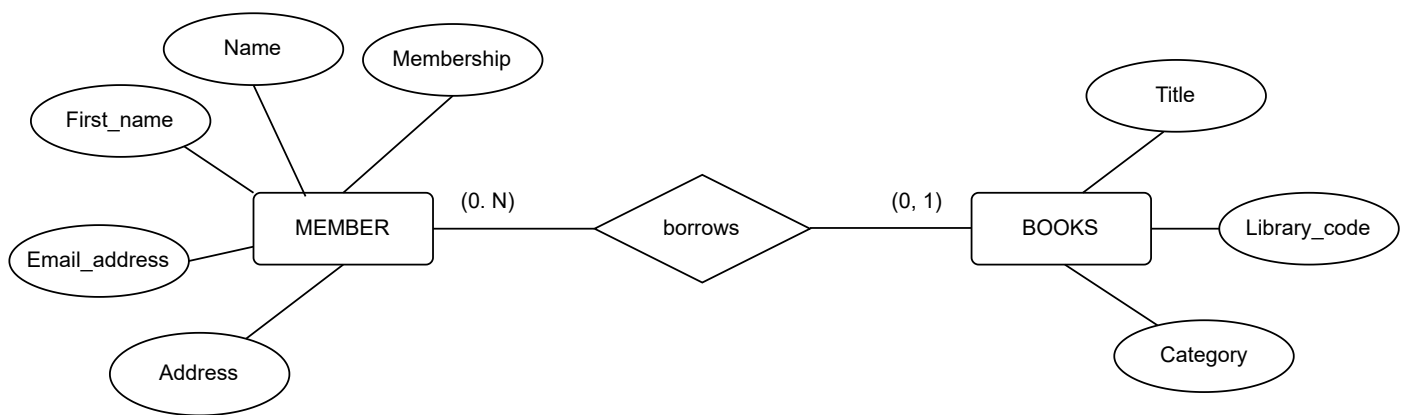


In this diagram, the entity types are **COSTUMER** and **CAR**, the attributes are shown in the ovals. The diamond "rents" is the relationship between the customer and the car.

A customer can exist without renting a car, and a car can exist without a customer renting it.

A customer can rent multiple cars, and a car can be rented to multiple customers.

2.5. A member of the library borrows a book

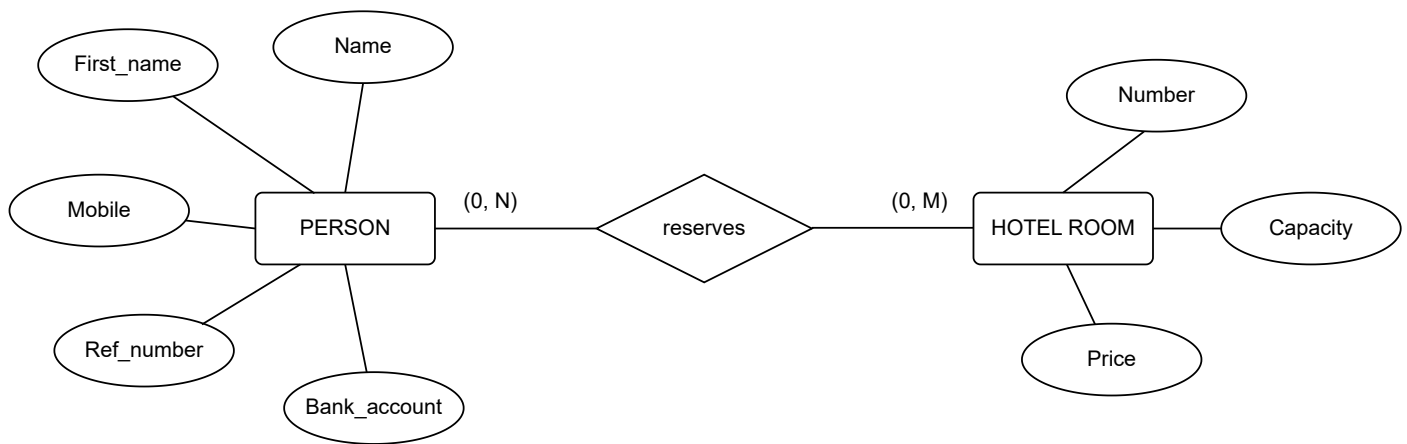


The diagram shows two Entity types as MEMBER and BOOKS, and the attributes are written in oval shapes. The relationship is "borrow" shown in the diamond shape.

A member can borrow as many books as they want, but each book can be borrowed by one member.

A member can exist without borrowing a book, and a book can exist without being borrowed by a member.

2.6. A person reserves a hotel room

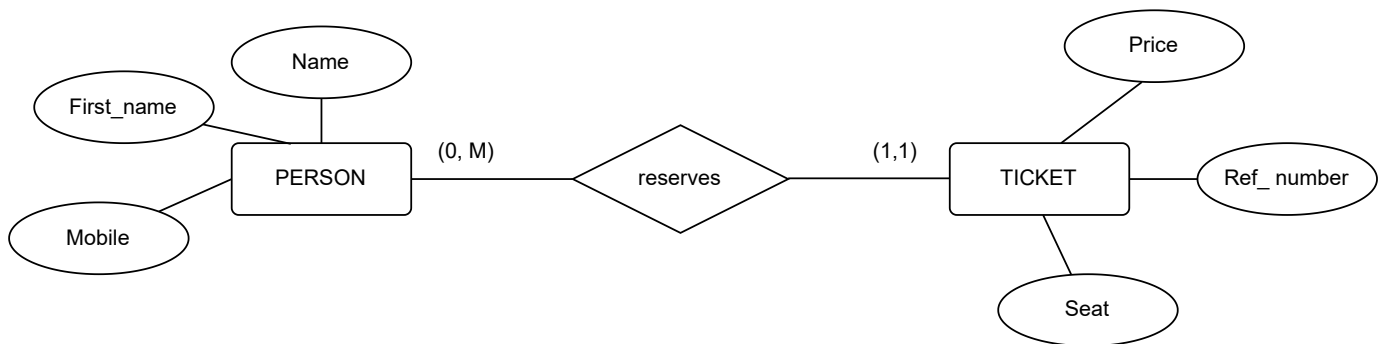


Here, the entity types are **PERSON** and **HOTEL ROOM**, the attributes are mentioned in the ovals. The diamond "reserve" is the relationship between the person and the hotel room.

A person can exist without reserving a hotel room, and a hotel room can exist without being reserved by one person.

A student can take multiple hotel rooms, and a hotel room can be reserved by multiple people.

2.7. A person reserves a concert ticket

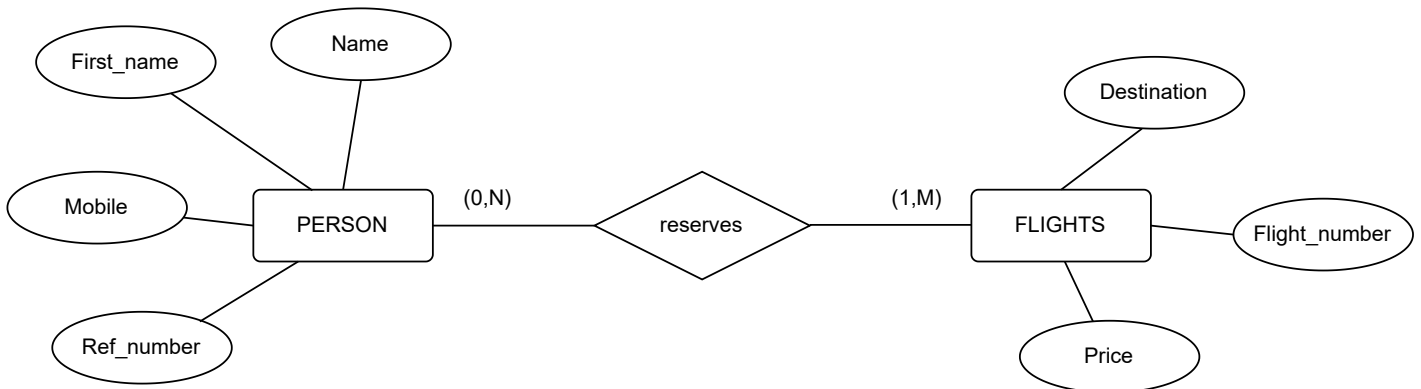


The diagram shows two Entity types as seen PERSON and TICKET, attributes are in the oval, and the relationship is in the diamond as "reserve".

A person can reserve as many concert tickets as they want, however, each ticket can only be reserved by one person.

A person can exist without reserving a ticket, while a ticket cannot exist without being reserved by a person.

2.8. A person reserves a flight



In the above diagram, the Entity types are PERSON and FLIGHTS the attributes are mentioned in the ovals. The diamond "reserve" is the relationship between the person and the flight.

A person can exist without reserving a flight, and a flight cannot exist without being reserved by one person.

A person can take multiple flights, and a flight can be reserved by multiple people.

Attempt feedback from instructor

Pay attention to the notation:

Start the name of entity types and relationships with a capital letter.
Use small letters for the rest of the word. Use a space to separate words.