ER MODELLING

NAME: **RISHAL RAMESH** ***EXP NO:*** **5**

REG NO: **RA1911030010084**

AIM:

To create an entity relationship diagram for library management system.

TOOLS USED:

Draw.io

PROCEDURE:

Step 1: Identify the entity sets

The entity sets are as follows −

- Book
- Publisher
- Member
- Section
- Granter

Step 2: Identify the attributes for the given entities

- Book − The relevant attributes are title, author, price, Isbn.
- Member − The relevant attributes are Name, Bday, MID, address, phone, age.
- Section − The relevant attributes are Sid, name, phone.
- Publisher − The relevant attributes are name, phone, Pid, address.

- Granter − The relevant attributes are phone, name, Nic, post, address.

Step 3: Identify the Key attributes

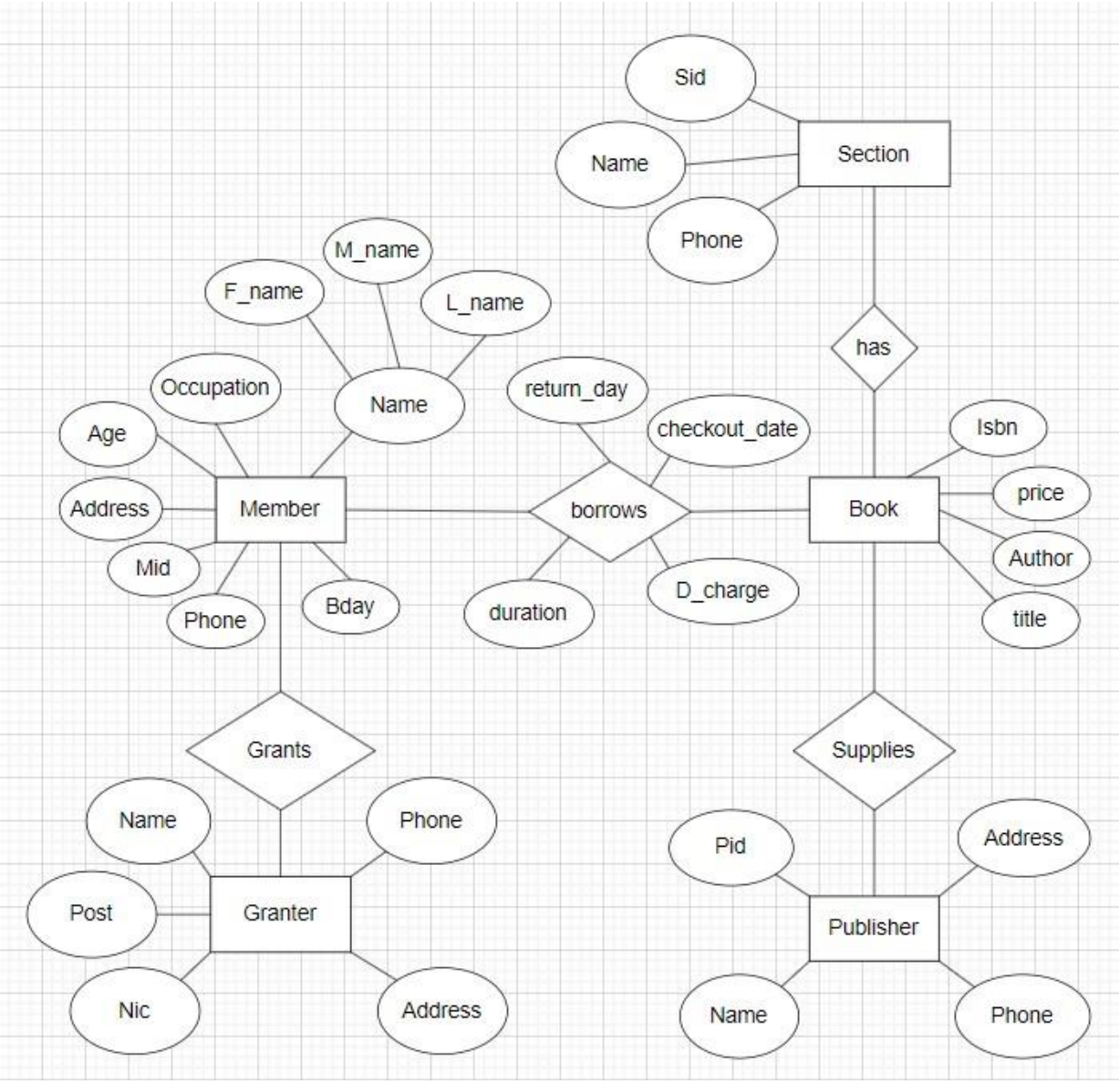
- Sid is the key attribute for the section.
- Mid is the key attribute for member entities.
- Isbn is the key attribute for a book entity.
- Pid is the key attribute for a publisher entity.
- Nic is the key attribute for a granter entity.

Step 4: Identify the relationship between entity sets

- Multiple books are arranged in a single section and one section has multiple books. Hence, the relationship between book and section is many to one.
- One member borrows multiple books and multiple books can borrow a single person. Hence, the relationship between member and book is one-to-many.
- One publisher can supply multiple books and multiple books can be supplied by a single publisher. Hence, the relationship between publisher and book is one-to-many.
- One granter can grant multiple members and multiple members can grant a single granter. Hence, the relationship between grantor and member is one-to-many.

Step 5: Complete ER diagram

The complete ER diagram is as follows:



RESULT:

The ER diagram for library management system was constructed using draw.io.

ER MODELLING

NAME: **RISHAL RAMESH** ***EXP NO:*** **5**

REG NO: **RA1911030010084**

AIM:

To create an entity relationship diagram for university database application.

TOOLS USED:

Draw.io

PROCEDURE:

Step 1: Identify the entity sets

The entity sets are as follows –

- Department
- Course
- Student
- Instructor

Step 2: Identifying the attributes for the given entities

- Department − the relevant attributes are department Name and location.
- Course − The relevant attributes are courseNo, course Name, Duration, and prerequisite.
- Instructor − The relevant attributes are Instructor Name, Room No, and telephone number.

- Student − The relevant attributes are Student No, Student Name, and date of birth.

Step 3: Identifying the Key attributes

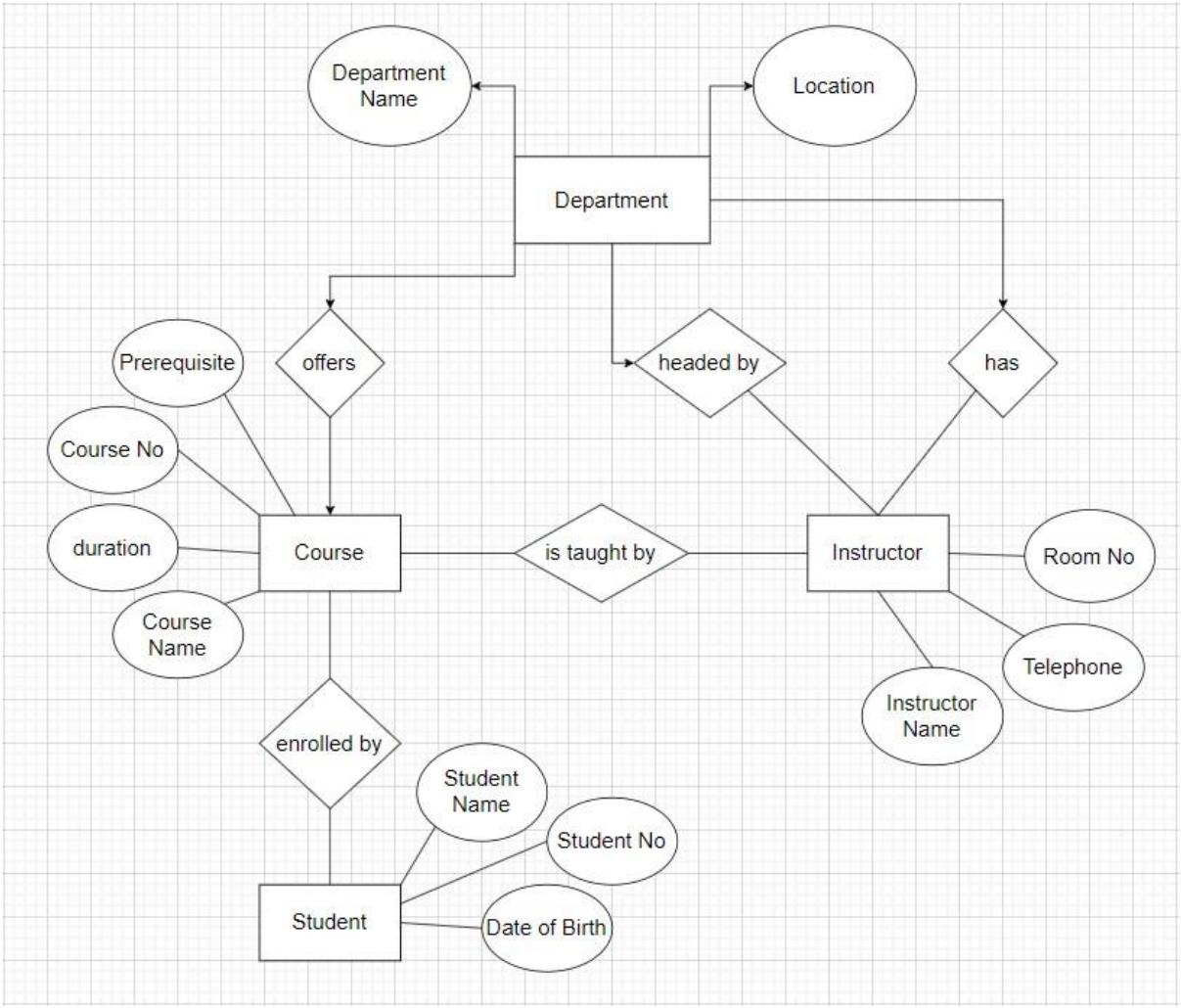
- Department Name is the key attribute for Department.
- CourseNo is the key attribute for Course entity.
- Instructor Name is the key attribute for the Instructor entity.
- StudentNo is the key attribute for Student entities.

Step 4: Identifying the relationship between entity sets

- The department offers multiple courses and each course belongs to only one department, hence cardinality between department and course if one to many.
- One course is enrolled by multiple students and one student for multiple courses. Hence, relationships are many to many.
- One department has multiple instructors and one instructor belongs to one and only one department, hence the relationship is one to many.
- Each department has one “HOD” and one instructor is “HOD” for only one department, hence the relationship is one to one. Here, HOD refers to the head of the department.
- One course is taught by only one instructor but one instructor teaches many courses hence the relationship between course and instructor is many to one.

Step 5: Complete ER diagram

The complete ER diagram is as follows:



RESULT:

The ER diagram for university database application was constructed using draw.io.