Section 1

- **Project description**
  This database represents a typical university system. It stores information about classes, students, faculty, and some additional services such as amenities, student clubs, and advisors. The topic for this database was chosen so that we could better understand the details and relationships that are part of a well-organized, well-functioning university system.

  This database can be used in the following ways:
  - Faculty can use it to find which courses they are teaching and which students are helping them with projects.
  - Students can use it to find their advisor, search for courses to register for, and find their current grades.
  - Management can use it to record employment information and see which staff members are in charge of which amenities, which TAs work for which classes, and which professors teach which courses.
  - Department managers can use it to officially recognize student clubs with faculty sponsorships and funding based on attendance. Each department can also use it to create new courses and offer sections of them each semester.
  - Faculty and students can use it to find their TA for each course section they participate in.

  Some important aspects of the database's design include:
  - Students can be employed as university staff.
  - All amenities have at least one staff member maintaining it.
  - All clubs have one professor sponsoring it, but this sponsor can be changed anytime.
  - Professors can have separate sets of students related to them through either course sections they teach or projects they work on.

Section 2

- **General Requirements** (Alenka(course, section, professor), Tony(staff, club, amenities,department), Tephinnie(student, advisor project))
  - The database stores all the courses taught at the University. Each course has a unique CRN, the database also stores the name of the

course, meeting time and location of each course. Each course is divided up into sections and teaching assistants are assigned to each section.

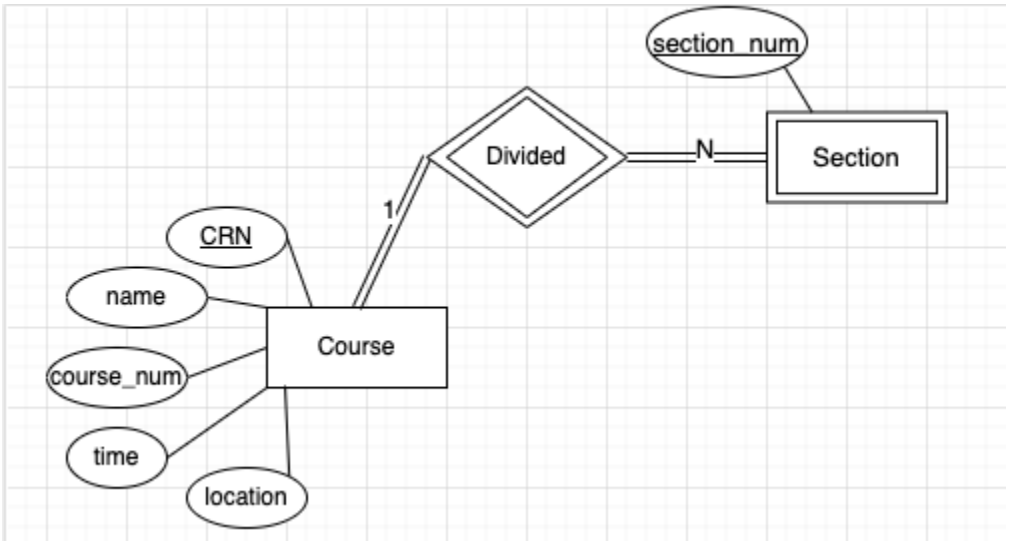
- A section is identified by its section number and the course CRN associated with it. The database also stores the office hour and location of the TA assigned to that section.
- Each section has only one teaching assistant and a teaching assistant can be assigned to only one section.
- A course can be taught by multiple professors and one professor can teach many courses.
- A professor is identified by their employee number. The database also stores the professor's name, SSN, email, and hiring date.
- A student is identified by their student ID number. The database also stores their name, SSN, birthday, address, and email. Every professor belongs to a department.
- Every student has to have an advisor, but it is possible for the advisor to change.
- An advisor is identified by their employee number. The database also stores their name, email, and SSN. Every advisor has to have at least one student assigned to them.
- A project is identified by its name. The database also stores its description. Every project has to have a lead professor and can have multiple students assisting on the project.
- A department is identified by its unique name. There is at least one professor in each department and every department has to offer at least one course.
- Club is identified by its unique name and run by students. The database also stores the budget of each club and the president of the club. Many students can be a part of many clubs. Each club also has one department associated with it.
- A club can sometimes reserve the amenities on campus for activities or meetings. The database records the time and room for the reservation.
- The amenities on campus are identified by their unique name, the database also stores its address. Each amenity has at least one staff member tasked with maintaining it.

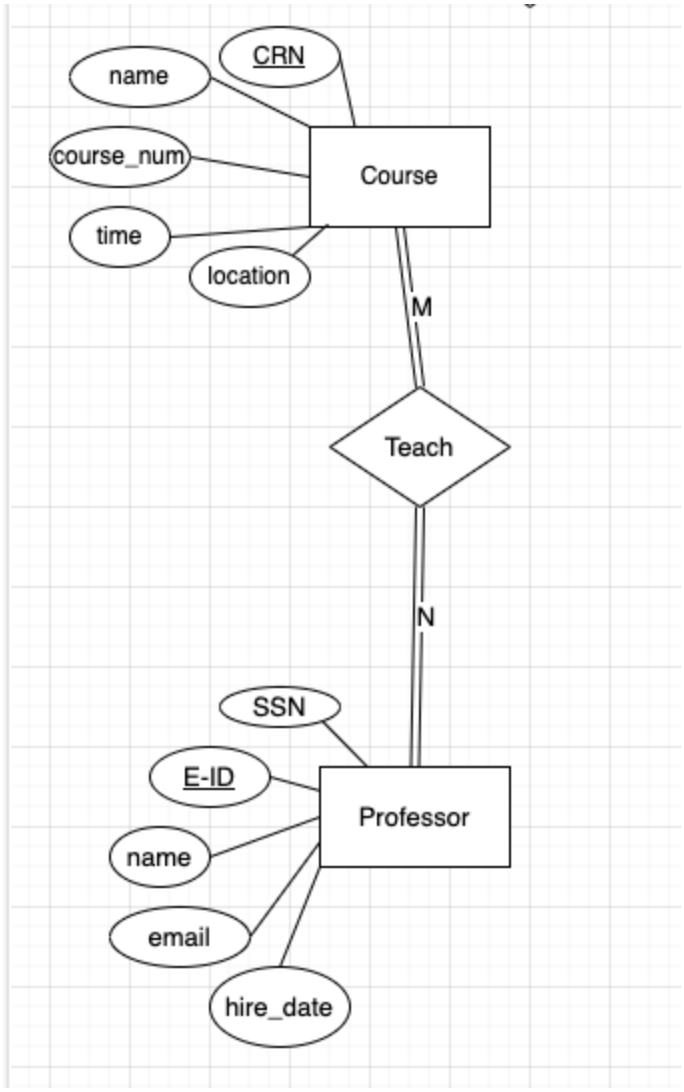
    - A staff is identified by their employee ID, the database also stores their name, email address and salary. A student can work as a staff member.
- **Functional Requirements and constraints**
    - The database can generate a list of classes taught by a professor.
    - When a course is offered in a new semester, the old record automatically gets replaced, along with the sections, professor and students associated with it.
    - The database is able to generate a table that includes all the sections of a given course and lists of students attending each section.
    - Section is a weak entity with an identifying relationship with the course it's associated with. When the course is removed from the database, the sections associated with it will also be removed.
    - The database is able to generate a list of projects that belong to a given department as well as the leading professor and students associated with it.
    - Clubs must report to a department with information on attendance and funding.
    - Clubs can make reservations for amenities by specifying a room and time to reserve.
    - A club has to be sponsored by a professor, the sponsor can be changed but the sponsor attribute cannot have NULL value. Any attempt to do so will be denied by the system.
    - The database is able to generate a list of courses a student is registered in a given semester
    - An Amenity has to have one staff who's in charge of it, the database will allow changing of the staff but deleting the staff who's in charge of it will be denied by the system.
    - The database only stores the last time a club uses a given amenity on campus; the new record will automatically replace the old one.
    - The database is able to generate a list of students that are assigned to a given advisor.
    - When a student's working status is no longer active, their record from the staff table will be removed.

- The database will allow changing of the leading professor of a project but removal of a leading professor (changing it to NULL) will be denied by the system
- The database is able to simply append a row of student records on the section table when a new student registers to a section.
- Departments can offer existing courses or create new ones.
- The database is able to generate a list of students attending a club given the name of the club.
- The user is able to query the reserve record of an amenity on campus.

Section 3

- **Partial ER Diagram (Individual Entities w/ Attributes & Relationship)**



- 
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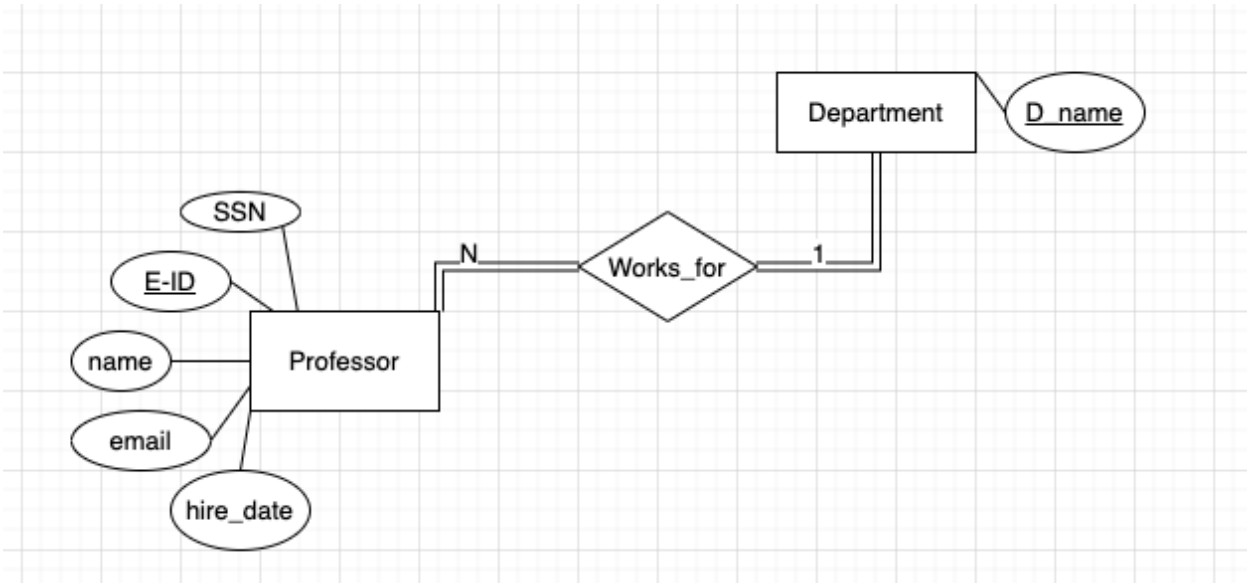
- 
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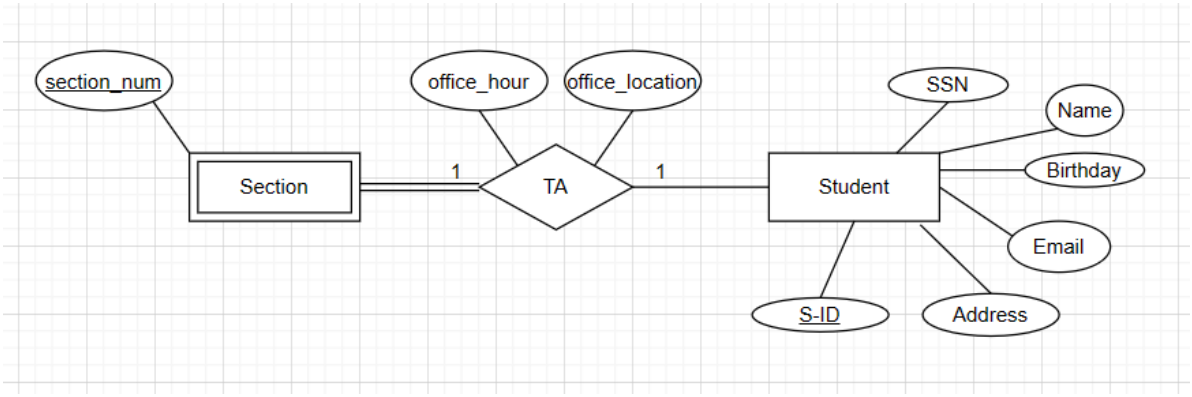
- 
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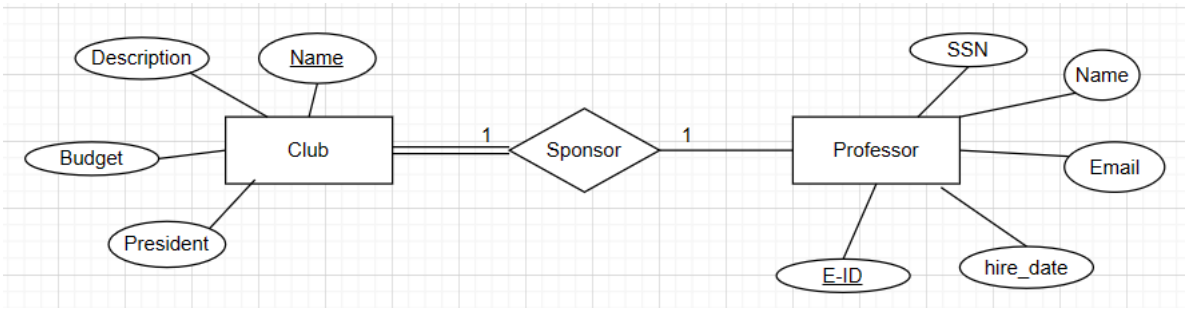
- 
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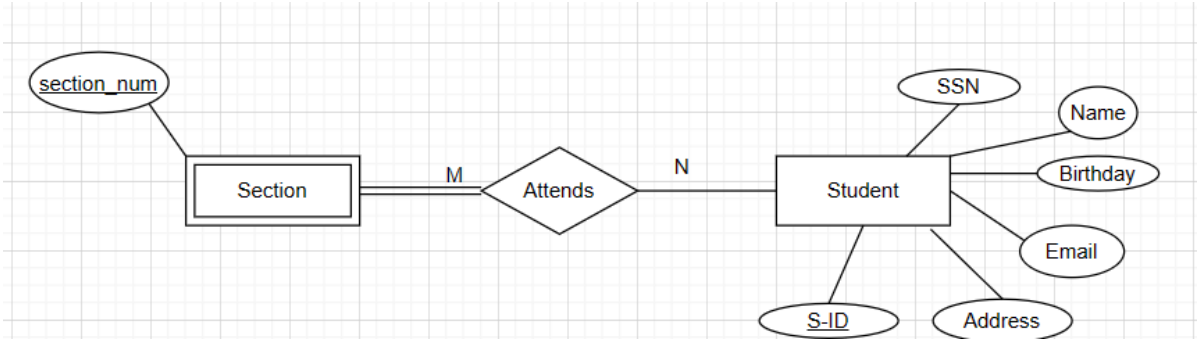
- 
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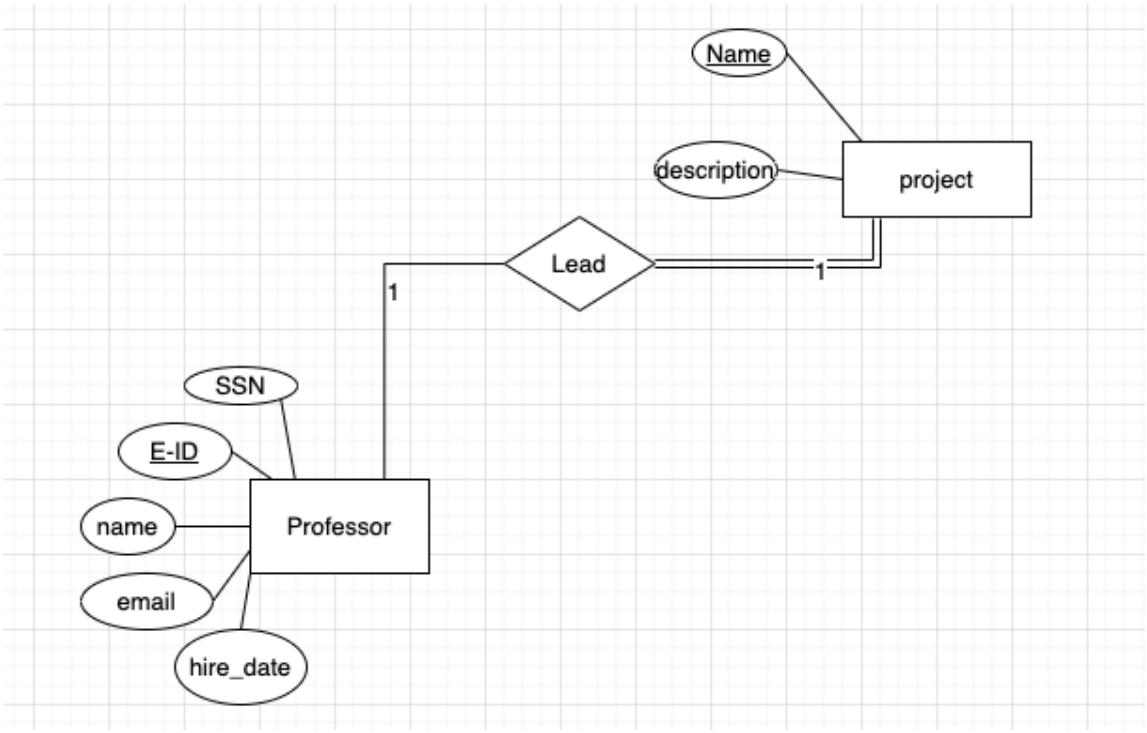
- 
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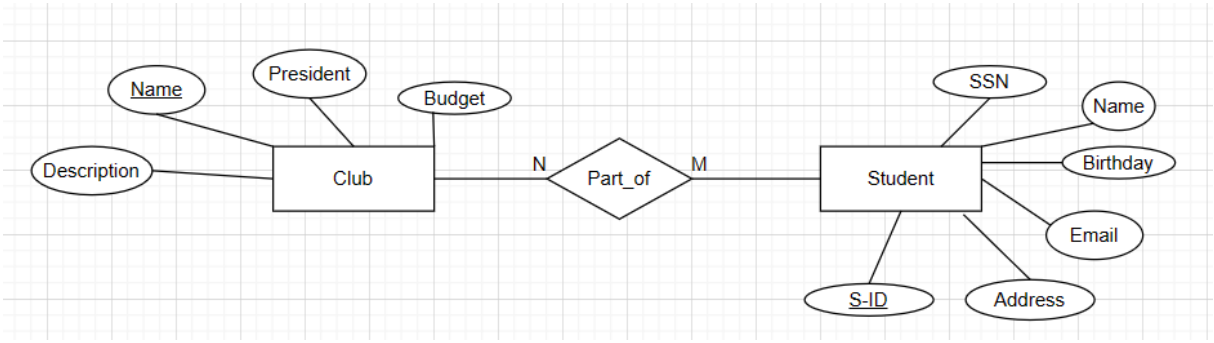
- 
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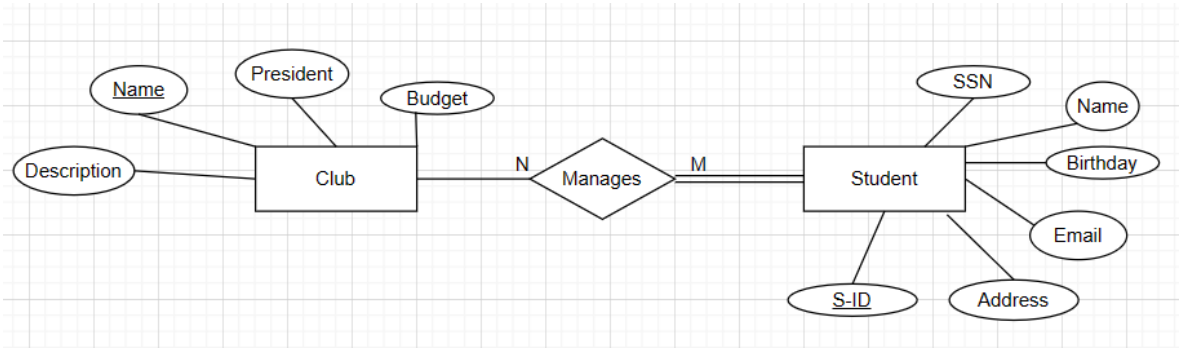
- 
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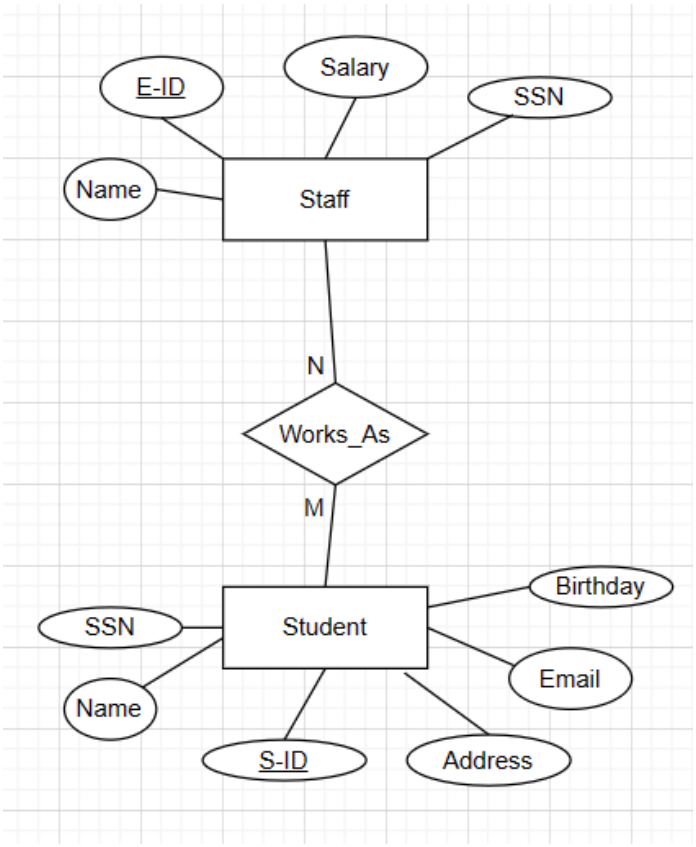
- 
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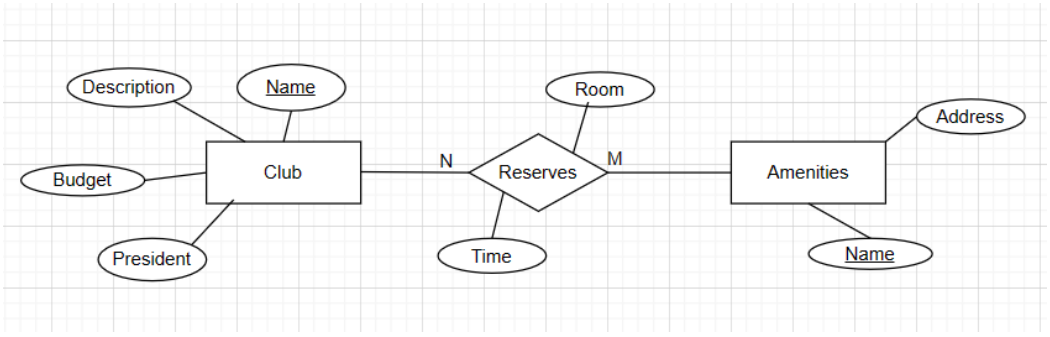
- 
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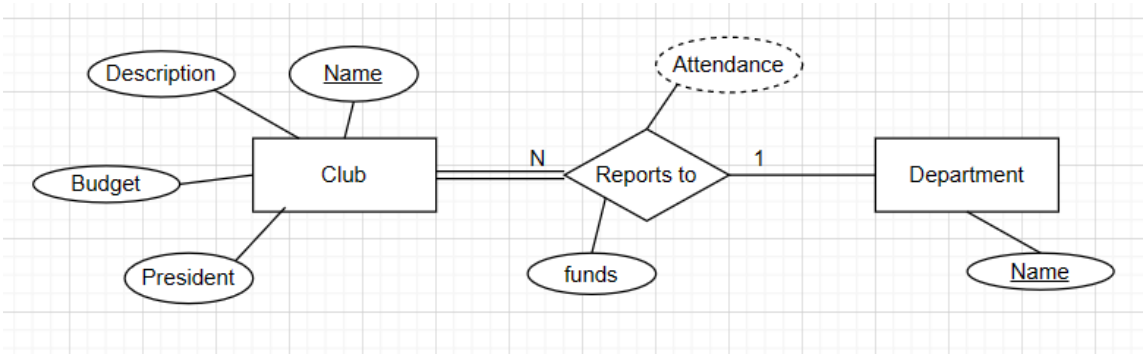
- 
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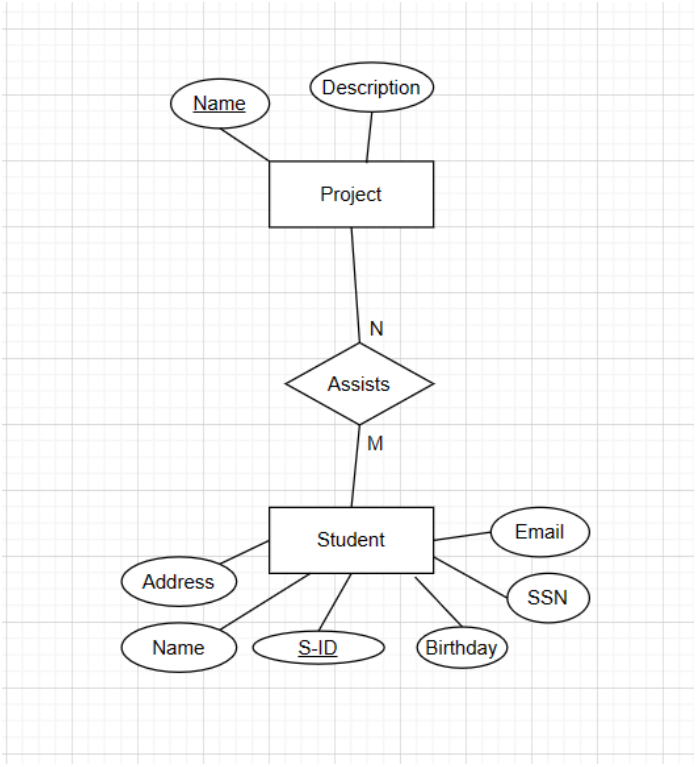
- 
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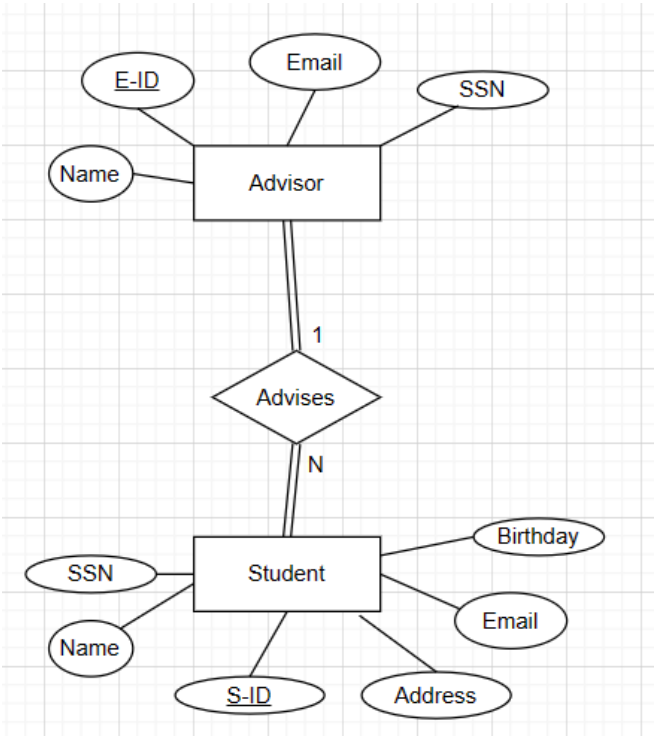
- 
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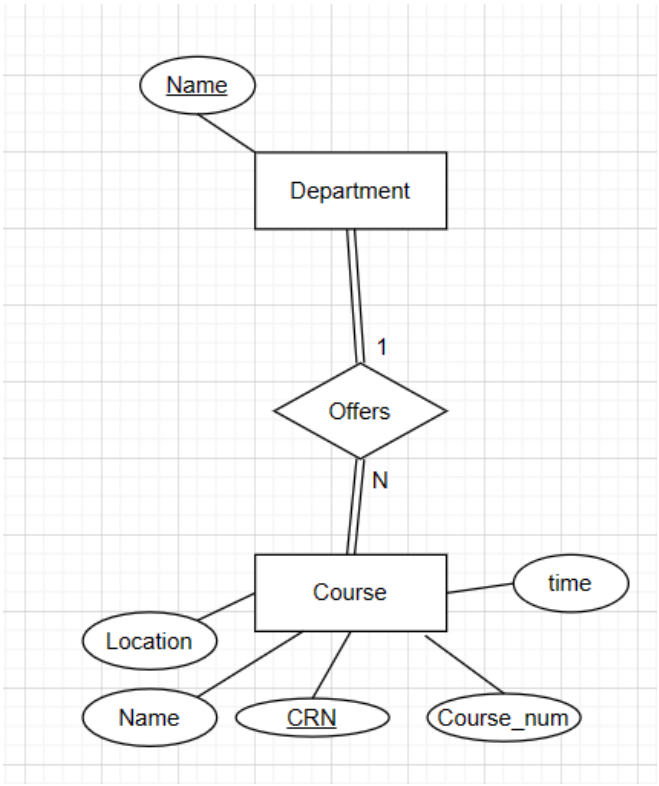
- 
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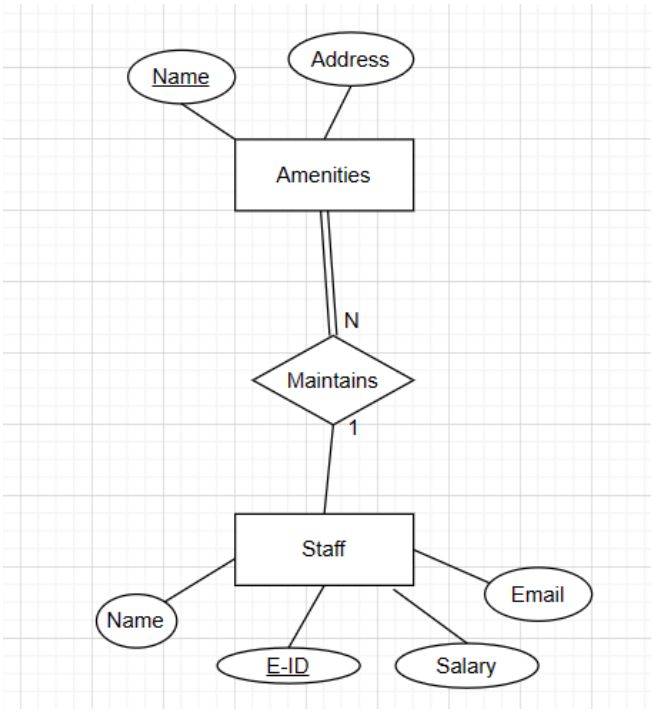
- 
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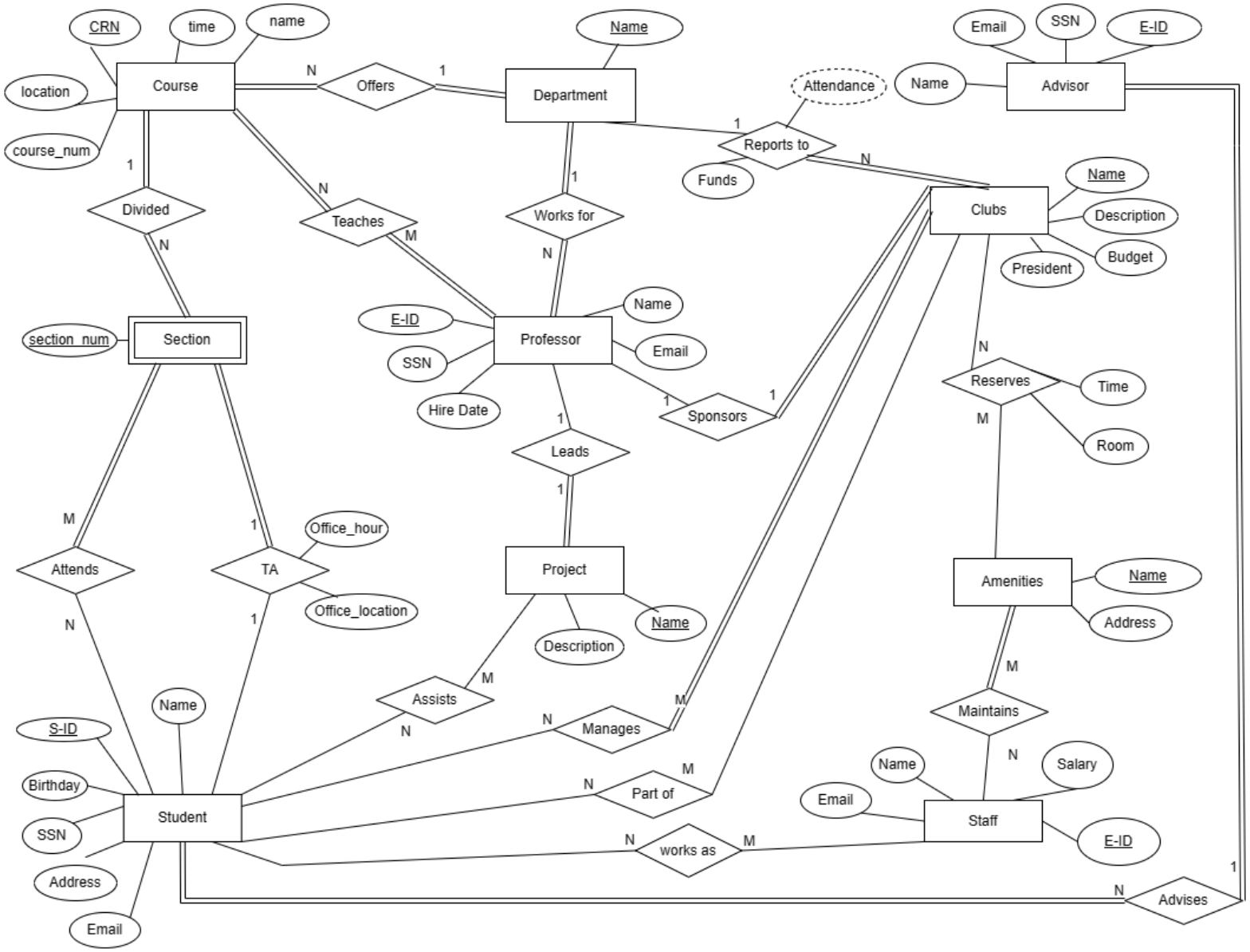
Appendix
Final ER Diagram: (



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