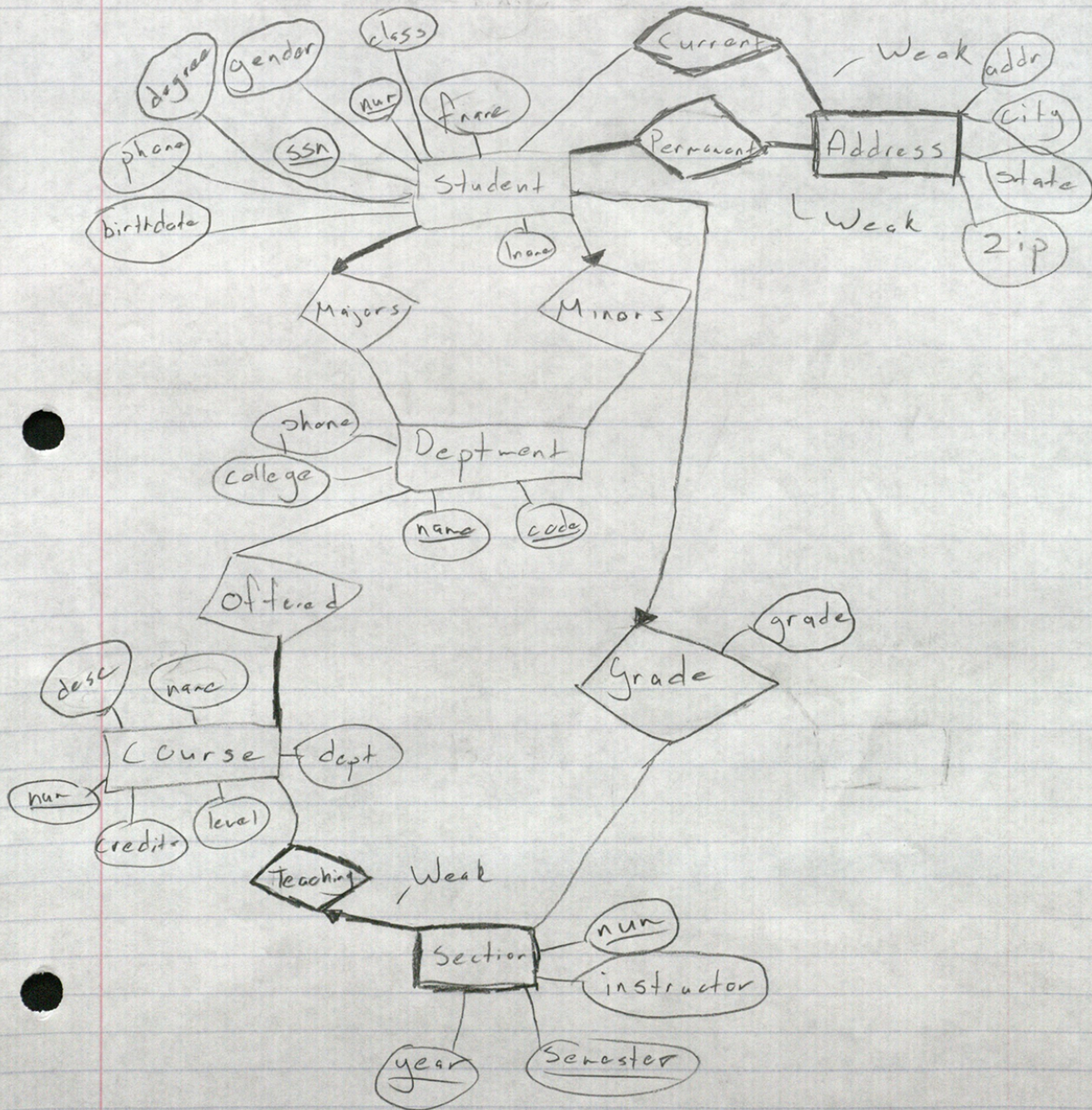


Problem 1

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Entities: Student, Dept, Course, Section, Address
 Relationships: Majors, Minors, Offered, Teaching, Grade



Extra Info:

Course

- Since Courses can be cross listed, there is no key constraint. It does have a total constraint because a course shouldn't exist without a Department.

Student

- First name and last name are broken up for searching
- Each Student **requires** a Major, thus total and key constraint
- Students can have a Minor, but only one, so therefore there is a key constraint
- Each Student can have two addresses, one permanent and one current

Address

- An Address is a weak entity because it cannot exist without a Student living at it either permanently or currently
- There is no key constraint because a Student could have the same permanent and current Address.
- Each Student must at least have a permanent Address, thus the total constraint.

Department

- No constraints.

Section

- A Section is a weak entity to the Teaching relationship because a section should only exist if it has all required information assigned to it

Grade

- A relationship because it is assigned to a Student and his/her corresponding Section.
- A Student cannot have multiple grades per section, thus a key constraint is used.
- A total constraint is not used because at the beginning of the semester students don't have a grade. It would only be issued at Midterm/Finals.