**Project 2**

1. Project Description

In your first project, you were asked to implement the University database in MySQL. Many of you have done an excellent job. Figure 1 shows an ER diagram which is the same with the one in project 1.

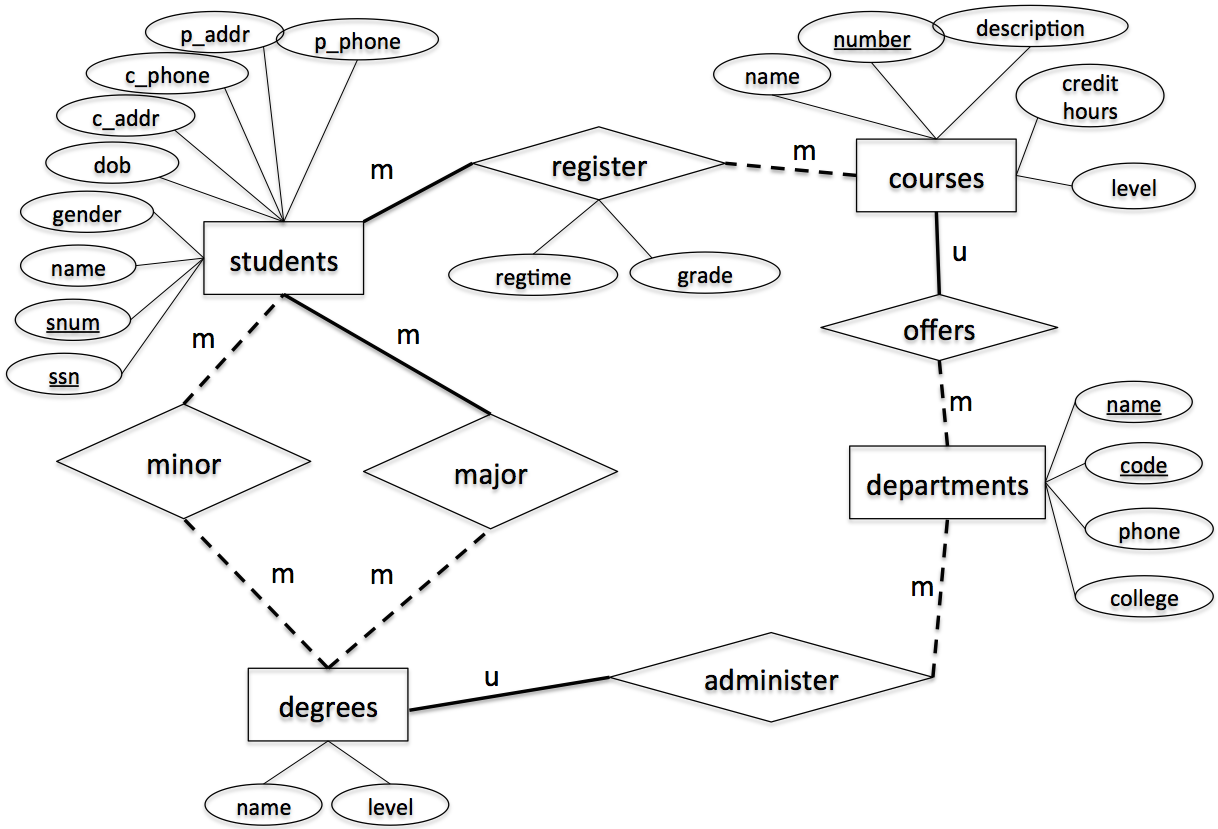


Figure 1. ER-diagram

This project is to implement the above design using a graphic model and query in Neo4J.

The tasks include:

1. **ImportData [Points: 10]**

Create the graph database for the same information from Project 1 using the Data Importer. The tables are provided as csv files which you can download. You need to load those csv files into Neo4J to create nodes and edges reflecting the ER design.

1. **Query [Points: 70]**

This script query the following information

* 1. (4pts) The campus addresses of the students whose name is "Kevin"
  2. (4pts) The major name and major level of the students whose name is "Kevin"
  3. (4pts) The numbers and names of all courses offered by the department of Computer Science, order by course number
  4. (4pts) The name of the students enrolled in Fall2020 semester.
  5. (4pts) All degree names and levels offered by the department Computer Science, order by degree level
  6. (5pts) The snum and names of all students who have a minor, order by student snum
  7. (5pts) The names and snums of all non-undergraduate students enrolled in course “database”, order by snum. (“non-undergraduate students” means the major degrees of these students are MS or PhD levels)
  8. (5pts) The name, snum and SSN of the students whose name contains letter “n” or “N”, order by snum
  9. (5pts) The name, snum and SSN of the students whose name is between “Becky” and “Nicole”, order by name
  10. (5pts) The course number, name and the number of students registered for each course, order by course number (if a course has no student registered, the count should be 0)
  11. (5pts) The count of female students who major or minor in Software Engineering degrees at any level
  12. (5pts) The numbers and names of courses and their corresponding average grades from students registered in the past semesters.
  13. (5pts) The count of female students who major or minor in a degree managed by LAS departments
  14. (5pts) The names of degrees that have more male students than female students (major or minor)
  15. (5pts) The major degree that the youngest student is taken
  16. (bonus 5pts) The most popular major degrees and the number of students of these most popular majors (I.e., the major with the highest number of students)
  17. (bonus 5pts) The most popular major degrees and number of students of the most popular degrees (I.e., the degree program with the highest number of students taking it as major or minor)

1. **ModifyRecords [Points: 15]**

This script modifies the following information

1. Change the name of the student with ssn = 746897816 to Scott
2. Change the major of the student with ssn = 746897816 to Computer Science, Master.
3. Delete all registration records that were in “Spring2021”,
4. **DropAll [Points: 5]**

This script deletes all nodes and edges from the database.

**Submission Instruction**

*Submit all your scripts to your Canvas account including the following files:*

1. your Neo4J “Credentials for Instance01” file

This is the file you downloaded when creating a new instance on Neo4J aura, which contains

NEO4J\_URI=

NEO4J\_USERNAME=neo4j

NEO4J\_PASSWORD=

**Rename this file to “[your name]-neo4j-credential.txt” and submit it. We will log in your Neo4J instance to check the DB and run your scripts.**

1. *Query.text, ModifyRecords.txt, DropAll.txt.*

*You can copy your code from neo4j and save them in txt files. Add “//query1”, “//modify1”, etc, before the specific code to indicate the corresponding question.*