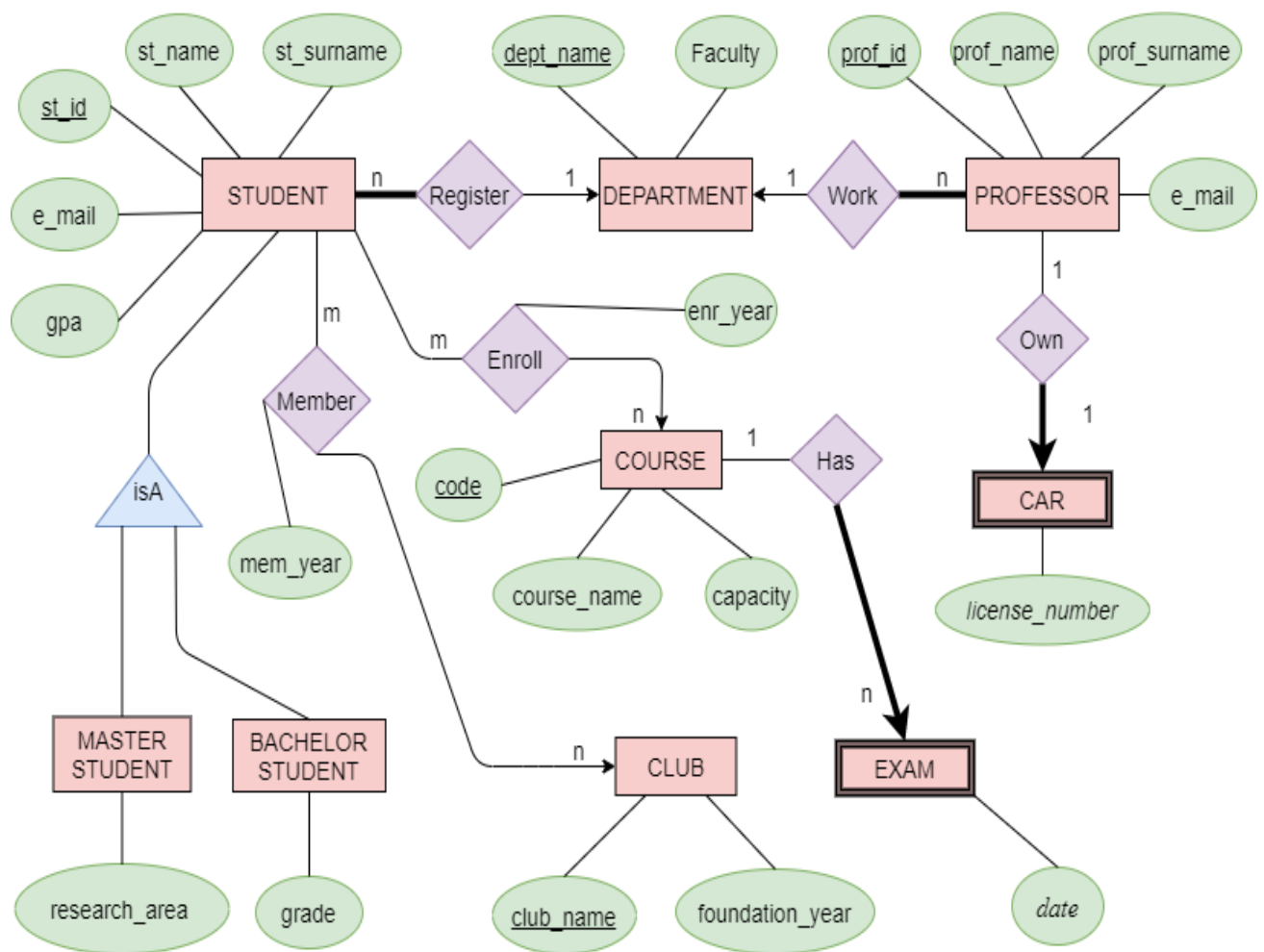# BBS 632 DATABASE SYSTEMS TERM PROJECT

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<u>Project Definition:</u> A simple relational database system will be designed. In this manner, we will hold data related with departments, students, professors, courses and student clubs. Project constraints were determined by Instructor as follows:

1) There must be at least one '1-1' and 'isA' relationships.
2) There must be several '1-n' and 'm-n' relationships.
3) There must be several weak entity relationships.

In my E/R Diagram attribute, entity and relation boxes are shown with different colors. All entities written with capital letters. Weak entities are placed in double rectangles and bold lines indicate total participation. Primary keys are underlined whereas partial keys are written as italic. Please assume that each professor can get only one vehicle sticker and therefore '1-1' relationship occurs between professor and car entities.

Based on E/R Diagram, I have created relational schema (database tables). Red color is used for primary keys and green color is used for foreign keys. I have created tables for each entity and 'm-n' relations. 'Student' table includes 'st_type' attribute so that we can distinguish bachelor and master students. Also, some additional attributes added to tables as a foreign key to meet '1-1' and '1-n' relations.

STUDENT

st_id	st_name	st_surname	e_mail	gpa	st_type	grade	research_area	st_dept

DEPARTMENT

dept_name	faculty

COURSE

code	course_name	capacity

PROFESSOR

prof_id	prof_name	prof_surname	e_mail	prof_dept

EXAM

course_code	exam_date

CAR

owner_id	license_number

CLUB

club_name	foundation_year

ENROLL

st_id	course_code	enr_year

MEMBER

st_id	club_name	mem_year