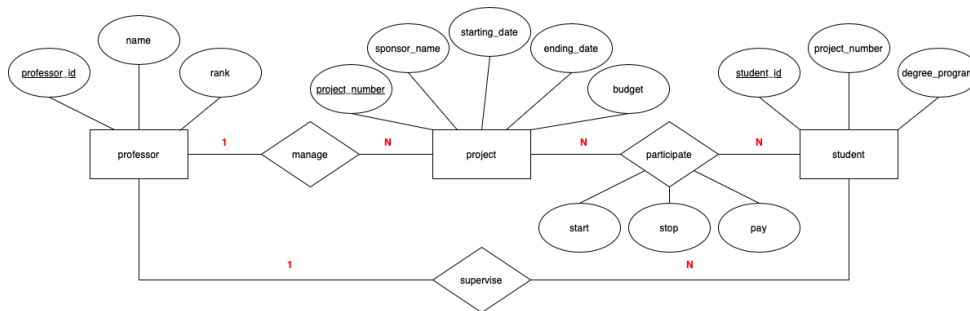# 109062320_assignment1_report

Problem1

1. Please design an ER model and draw an ER diagram for this scenario.

2. Please design a relational model for this scenario with the following constraints.

```
CREATE TABLE professor(
    professor_id INTEGER,
    name VARCHAR(20),
    rank INTEGER,
    PRIMARY KEY (professor_id)
);
--Each project is managed by a professor
CREATE TABLE project(
    project_number INTEGER,
    sponsor_name VARCHAR(20),
    starting_date Date,
    ending_date Date,
    budget INTEGER,
    professor_id INTEGER,
    FOREIGN KEY (professor_id) REFERENCES professor,
    PRIMARY KEY (project_number)
);
--Each student is supervised by a professor
CREATE TABLE student(
    student_id INTEGER,
    project_number INTEGER,
    degree_program VARCHAR(20),
    professor_id INTEGER,
    FOREIGN KEY (professor_id) REFERENCES professor,
    PRIMARY KEY (student_id)
);



--A student is able to participate in a project
CREATE TABLE participate(
    student_id INTEGER,
    project_number INTEGER,
    start TIMESTAMP,
    stop TIMESTAMP,
    pay INTEGER,
    PRIMARY KEY (student_id, project_number),
    FOREIGN KEY (student_id) REFERENCES student,
    FOREIGN KEY (project_number) REFERENCES project
);
```

Problem2

Consider the following table:

forum_name	popularity	post_id	title	article	reply
Gossiping	100	131	Girlfriend	How can I get girlfriend?	["Haha" "I don't know"]
Gossiping	100	252	Firends	I don't have a friend…	["Haha" "I can be", "QQ"]
Joke	23	46	Knock	Knock! Knock! …	["Then" "What's the poi ?"]
Joke	23	151	Santa Claus	Hold! Hold! Hold!	["XDD"

After decomposition

FORUM

forum_name(primary key)	popularity
Gossiping	100
Joke	23

POSTS

post_id(primary key)	forum_name(foreign key)	title	article	reply
131	Gossiping	Girlfriend	How can I get girlfriend?	["Haha "I don' know"]
252	Gossiping	Firends	I don't have a friend…	["Haha "I can be", "QQ"]
46	Joke	Knock	Knock! Knock! …	["Ther "What the po ?"]
151	Joke	Santa Claus	Hold! Hold! Hold!	["XDD