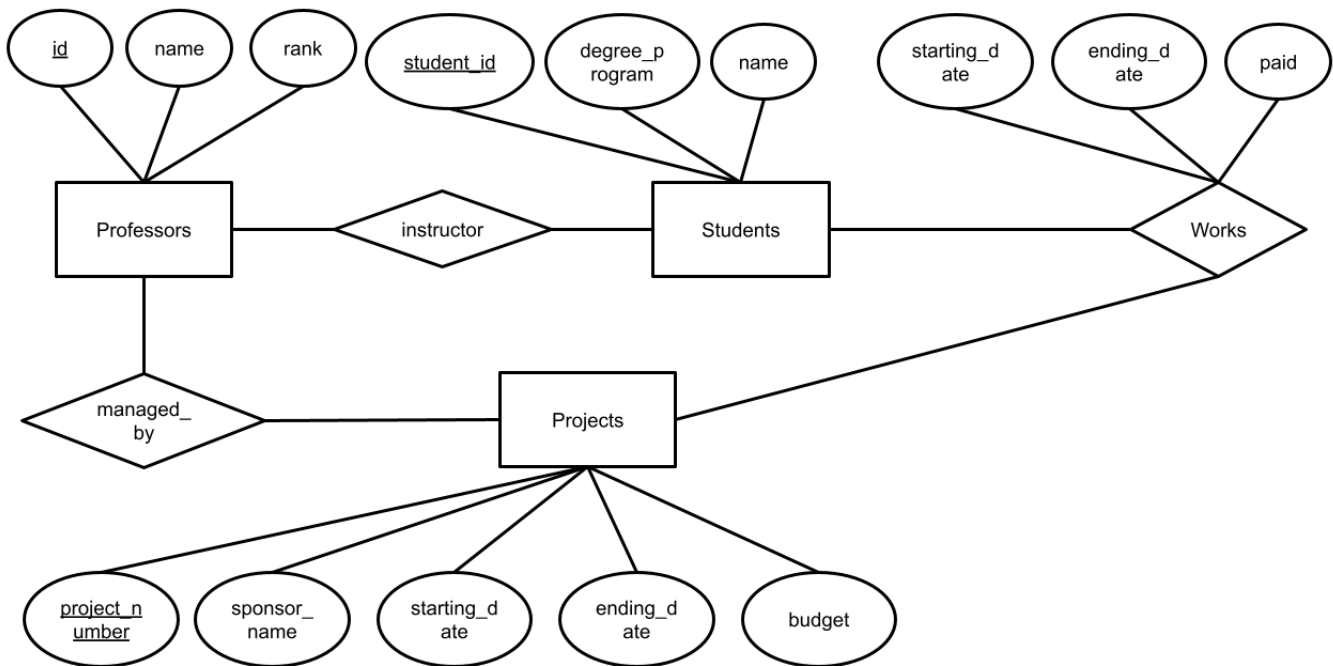


Problem 1

106033233 資工21 周聖諺

ER Diagram



Relational Model Schema

```

CREATE TABLE Professors(
    id serial NOT NULL,
    name VARCHAR(50),
    rank INT,
    PRIMARY KEY (id)
);
CREATE TABLE Projects(
    project_number serial NOT NULL,
    sponsor_name VARCHAR(50),
    starting_date timestamp,
    ending_date timestamp,
    budget INT,
    managed_by INT NOT NULL,
    PRIMARY KEY (project_number),
    FOREIGN KEY (managed_by) REFERENCES Professors ON DELETE CASCADE
);
create type Degree as enum('Bachelor', 'Master', 'PhD');
CREATE TABLE Students(
    student_id serial NOT NULL,
    name VARCHAR(50),

```

```

    degree_program Degree,
    instructor INT NOT NULL,
    PRIMARY KEY (student_id),
    FOREIGN KEY (instructor)REFERENCES Professors ON DELETE CASCADE
);
CREATE TABLE Works(
    project_number INT NOT NULL,
    student_id INT NOT NULL,
    starting_date timestamp,
    ending_date timestamp,
    paid INT,
    PRIMARY KEY (project_number, student_id),
    FOREIGN KEY (project_number)REFERENCES Projects ON DELETE CASCADE,
    FOREIGN KEY (student_id)REFERENCES Students ON DELETE CASCADE
);

```

Problem 2

Table Fourms

<u>fourm_name</u>	popularity
Gossiping	100
Joke	23

Field **fourm_name** is the primary key.

Table Posts

<u>post_id</u>	title	article	reply	fourm_name
131	Girlfriend	How can I get girlfriend ?	["Haha", "I don't know"]	Gossiping
252	Firends	I don't have a friend...	["Haha", "I can be", "QQ"]	Gossiping
46	Knock	Knock! Knock! ...	["Then?", "What's the point ?"]	Joke
151	Santa Claus	Hold! Hold! Hold!	["XDD"]	Joke

Field **post_id** is the primary key.

Field **fourm_name** is the foreign key referring to the field **fourm_name** of table **Fourms**.

```

CREATE TABLE Fourms(
    fourm_name VARCHAR(50),
    popularity INT,
    PRIMARY KEY (fourm_name)
);
CREATE TABLE Posts(
    post_id serial NOT NULL,

```

```
title VARCHAR(50),  
article VARCHAR(50),  
reply TEXT[],  
fourm_name VARCHAR(50) NOT NULL,  
PRIMARY KEY (post_id),  
FOREIGN KEY (fourm_name)REFERENCES Fourms ON DELETE CASCADE  
);
```