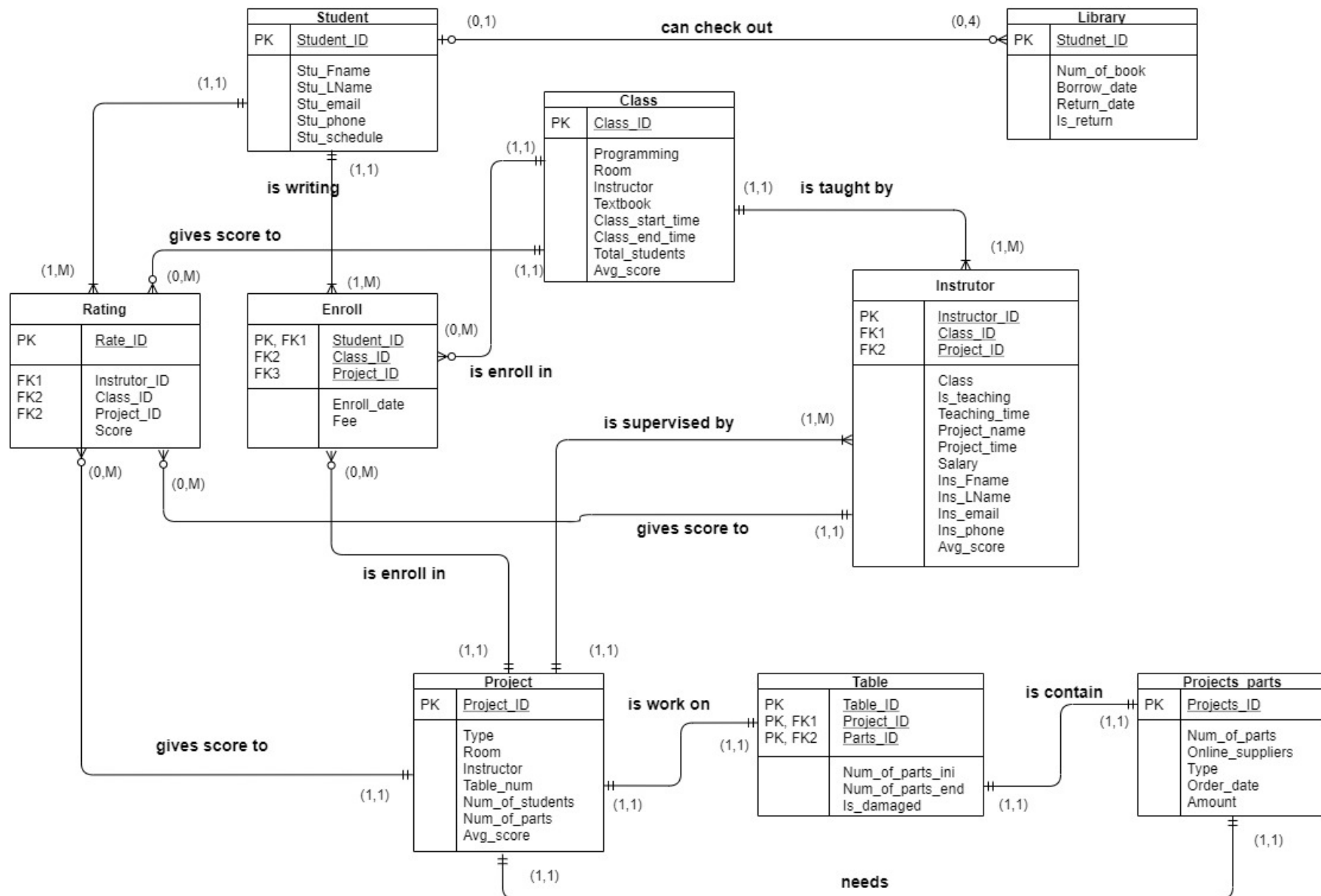


CSCI558 Database Systems HW1 ReadMe



1. Entities & Attributes:

Student

Store student's ID, name, email, and phone number. Also has student's class schedule.

Enroll

Each Student can enroll classes or projects and need to pay at the fee only one time.

In this entity, I store the student's ID and the class or project ID and the enroll date.

Class

There are lots of different programming language classes (Scratch, Processing, Python, Java and JavaScript) and each class need to have a room. Also, the same programming class can have different instructors and textbooks.

Class_start_time and Class_end_time will count the class time for instructors to get paid. And Avg_score is the rate from students.

Library

Num_of_book is the book number borrow from student, each student can only borrow at most 4 books.

Also, we can record the borrow date and return date because students can only borrow 2 weeks.

Instructor

Store instructors' ID, name, email, and phone number. Also, the classes they teach and the class time.

And if instructors are not teaching, then they will go to supervise projects.

So the salary is the class time plus project time. Avg_score is rating from the students.

Project

Type is what the project based on (based on a microcontroller - Arduino, Raspberry Pi, BeagleBoard or micro:bit). And the project has its room and instructor.

Num_of_students is the group of this project. Num_of_parts is the total parts this project need. And Avg_score is rating from the students.

Table

This entity is the project table for group of students. At the begin of the semester, the table will contain all the parts of the projects, and at the end of the semester, we need to contain the number of parts again.

If some of the parts are loss or damaged, then the student will be charged.

Projects_parts

This entity stores the total number of the projects' parts. And type is what the parts are (a microcontroller, and extra hardware such as wheels, motors, sensors, LEDs, switches, enclosures, etc.). And the parts will order from several online suppliers (such as SparkFun, adafruit etc.). Also, we will store the order date and the amount.

Rating

Students are required to rate the instructors, classes, and projects.

2. Relationship

Student can check out at the library.

Student is writing the enrollment.

Student needs to rate the instructors, classes, and projects.

Projects and classes can be enrolled.

Instructors teach the class or supervise the project.

Project is worked on table and table contains project parts.

3. Connectivity

We use dt_data.txt as our train data.

Entity_1	Entity_2	Connectivity	Reason
Student	Library	0 : 4	Student can borrow 0 ~ 4 books.
Student	Class	1:1	Student enroll the class.
Student	Project	1:1	Student enroll the project.
Class	Instructor	1:M	The class can be taught by several instructors.
Instructor	Project	1:1	Instructor supervises project.
Project	Table	1:1	Project has one table.
Project	Projects_parts	1:1	Project had one set of parts.