

CS241 - Questions for Lab Assignment 9

1 QUESTIONS

Consider the following relations:

Student(snum: integer primary key, sname: varchar(40), major: varchar(40), level: varchar(40), age: integer)

Faculty (fid: integer primary key, fname: varchar(40), deptid: integer)

Class(name: varchar(40) primary key, meets_at: varchar(40), room: varchar(40), fid: integer references faculty)

Enrolled(snum: integer references student, cname: varchar(40) references Class(name))

- (1) Alter the table *Student* to create an attribute called *total_credits*. By default, its value must be 0. Alter the table *Class* to create an attribute called *credits*. The value of credits for each course is given separately to you. Alter the table *enrolled* to create an attribute called *grade*, with its default value as *null*.

Write a trigger that calculates and updates the field *total_credits* using the following rules:

- 1) If a student has an F grade or if he has not yet been graded, he gets no credit.
- 2) If a student gets a grade other than F for a course, he gets the credits for that course.
- 3) It is possible that a student's grade changes after re-evaluation of his papers, after he writes a supplementary exam, etc. It is also possible that a grade that was entered wrongly is later corrected.

Add the values given for grades to each student in enrolled. Check whether the trigger works as expected. You can assume that entries in the student, enrolled or class tables will not get deleted. [10 Marks]