In-class Exercise 3

❑ Question:

❑ Create three tables using SQL: Students, Courses, and Enrolled. In table definitions, you must enforce the following constraints:

- ➢ Students: sid, sname, major, year_of_study, gpa
- ➢ Courses: cid, cname, enroll_count, lecturer
- ➢ Enrolled: sid, cid, score

- ➢ A student can be enrolled into a course only if he/she exists in Students table.
- ➢ If a student is removed from Students table, his/her enrollment record(s) should also be deleted from Enrolled table.
- ➢ Only the courses available in Courses table can be enrolled.

- ➢ gpa must be between 0 and 4.
- ➢ score must be between 0 and 100 if not NULL.

❑ Answer:
  ➢ CREATE TABLE Students
    (sid   CHAR(8),
     sname   CHAR(20),
     major   CHAR(10),
     year_of_study   INTEGER,
     gpa   REAL,
     PRIMARY KEY   (   ),
     CHECK   (   ));

  ➢ CREATE TABLE Courses
    (cid   CHAR(8),
     cname   CHAR(20),
     enroll_count   INTEGER,
     lecturer   CHAR(20),
     PRIMARY KEY   (   ));

  ➢ CREATE TABLE Enrolled
    (sid   CHAR(8),
     cid   CHAR(8),
     score   REAL,
     PRIMARY KEY   (   ),
     FOREIGN KEY   (sid)   REFERENCES Students
                      ON DELETE   ,
     FOREIGN KEY   (cid)   REFERENCES Courses
                       ON DELETE   ,
     CHECK   (   );