Homework 1

Due: 20 January 2015

Problem 1.1

Design a multi-table schema for keeping track of a contest where teams of up to three people submit solutions to a variety of problems; a particular solution can be correct or incorrect, and if incorrect, the team may resubmit later. The final scoring is based on when correct solutions were submitted and how many incorrect solutions preceded them, so the database needs to remember metadata about all submitted solutions, not just the correct ones.[1]

Make sure to include key (uniqueness) information as well as the domain (type) for each attribute. Unlike the schema from the previous homework, this one should include any relevant constraint information (in particular, keys) as well as attribute names and types. The schema should be presented as SQL table creation commands.

Problem 1.2

Consider a database whose only table has the schema

```
Student (givenname varchar(20), familyname varchar(20),
             studentID char(5), currentGPA float)
```

Write SQL commands/queries to perform the following tasks

a. Print the complete student record for the student with id 61401.

b. Print the full names of all students with a GPA of at least 3.8.

c. Add a student with ID 02906 named Terry Jones, with a GPA of 3.1.

d. Change the GPA of the student with ID 60453 to 2.7.

[1] This is based on the ACM Programming Contests; but even if you've never been involved in one, I've given you all the information you should need for this problem above.