CS 170 -- Section 001
Homework 5 (Due 12/11/2012 at 23:59)

Honor Code: Like all work for this class, the Emory Honor Code applies. You should do your own work on all problems, unless you are explicitly instructed otherwise. If you get stuck or have questions, ask your instructor or a TA for help.

Please make sure that you have added the honor code statement at the top of every program file:

/* THIS CODE IS MY OWN WORK. IT WAS WRITTEN WITHOUT CONSULTING CODE WRITTEN BY OTHER STUDENTS OR MATERIALS OTHER THAN THIS SEMESTER'S COURSE MATERIALS. _Your_Name_Here_ */

Replace _Your_Name_Here_ with your name.

Get into your working directory and copy three files to your current directory by running the following command:

> cp /home/cs170001/share/hw/hw5.java ./
> cp /home/cs170001/share/hw/student.java ./
> cp /home/cs170001/share/hw/course.java ./
> cp /home/cs170001/share/hw/output ./

You are supposed to implement functions defined in student.java and course.java. Notice: Do NOT change anything in hw5.java.

Description: The assignment is to implement two classes, student and course, which support (1) a students choose courses; (2) print out roster for a course; (3) print out courses the student gets enrolled.

hw5.java:

> It creates several course instances with given names and time first, and then creates several student instances with given names. Each student instance will choose some courses by calling *add(course c)* function. The add action will fail (do nothing) if the course is conflicting (in terms of time) with any of the chosen courses of that student, otherwise, the course will be added to the student's course list and the course will have the student's name in its roster. Please check the content of hw5.java for more details.

student.java:

> **public** student(String name): create a student instance with the given name.

> **public void** add(course c): add a course *c* to the student's course list and add the student's name to the roster of course c if course *c* has no conflict with the chosen courses of the student. Otherwise, do nothing.

public String toString(): convert a student instance to a String which consists of the name of the student and all the courses he enrolls in.

course.java:

public course(String name): create a course instance with the given name.

public void setDay(**int**[] d): set which days in a week the course will occur. Days are represented by integers, where 0 is Monday, 1 is Tuesday, ..., 4 is Friday. For example, if *d = new int[]{0, 2, 4}*, the course will occur every Monday, Wednesday and Friday.

public void setTime(**int** start, **int** end): set when (in 24 hours) the course will occur in a day. Note that *start* and *end* can only be integers. For example, if *start* is 11 and *end* is 13, it means this course starts at 11am and ends at 1pm.

public String toString(): convert a course instance to a String which consists of the name of the course and all the students enrolled in.

In order to support all these functions, your class will need many non-static variables, arrays and functions. Add those members to your class if necessary.

Running and checking the correctness of your program:

Make sure hw5.java is in the same folder with student.java and course.java. Run:

javac hw5.java
java hw5

If the output is the same as the content of the file "output" previously copied, your program is correct for this particular hw5.java.

Turning in:

/home/cs170001/turnin-hw student.java hw5a
/home/cs170001/turnin-hw course.java hw5b