CST8110 - Introduction to Programming
Lab Exercise #3

DUE: in your lab class to your lab professor during week of Sept 29 – Oct 2

Overview

This lab activity will be completed in teams. Each team will have two members. The team will craft a set of instructions (the algorithm) to perform a sequence of tasks. Later, when the written instructions are complete, the team will exchange their instructions with another team (these four people will form what I'll call a *team cluster*). Each team will complete the instructions. The team cluster with the fastest times in each lab section will win a bonus grade on the lab exercise.

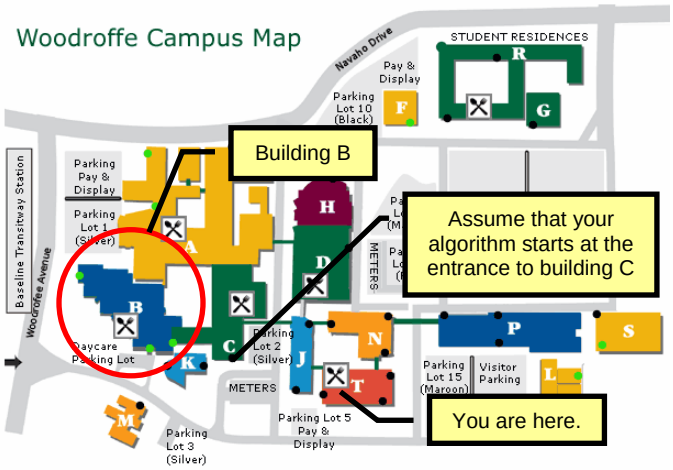
The lab has several goals:

- explore the need for precision, sequence, clarity in expressing algorithms;
- get to know your classmates better;
- get to know your way around the most confusing building on campus (building B);

Details

The Treasure Hunt

Here's a map of the Woodroffe campus. It shows the major buildings (identified by their letter) and the B-building in particular (circled in red). You will create a set of instructions that send another team on a treasure hunt to a location in Building B of your choice and retrieve the location – this could



be a specific room number, or a bulletin board, etc.

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Your routing instructions will handle a possible variation:

- it might be that a team member must take elevators rather than stairs. Your algorithm must accommodate both cases.

You'll need to craft your algorithm and format your work before the next lab period.

The Algorithm

The instructions you write must be in an algorithm style. By that I mean you must give step-by-step instructions. For example, imagine that you wanted them to get to the foyer of **Building-C** starting from our lab in **Building-T**. *You can't mention Building C directly*.

You must give step-by-step instructions about how to get there from T-317 (our lab). Your algorithm might read:

- Exit lab.
- If taking the elevator
  - Turn left
  - Proceed in a straight line to the end of the hallway.
  - Turn left
  - Proceed in a straight line to the end of the hallway.
  - Elevator is on your left. Enter elevator and descend to the 1st floor.
  - Exit elevator and turn left.
  - Proceed in a straight line to the end of the hallway.
  - Turn left.
  - Proceed in a straight line to the end of the hallway.
  - Turn right.
  - end if (taking the elevator)
- else (that is not taking the elevator)
  - Turn right.
  - Proceed in straight line to end of hallway.
  - Turn left and exit through door.
  - Descend stairs to first floor.
  - end else (not taking the elevator)
- exit the building (elevator and stair paths rejoin)
- Proceed about 25 paces straight ahead . . . and so on

Documentation Standards

Print *two copies* of your documentation: one for your team cluster and one for your lab professor. In the lab professor's version, include your intended retrieval information While you are pursuing the treasure hunt, I'll review your documentation.

Use a good quality word processor to craft your instructions.

Staple[1] all components together including a cover page that identifies the following:

- Course Name and Course Number (including Lab Section Number: 11, 12 or 13)
- Two Names of the Team Members
- Lab Number and Lab Name
- Date of Submission

Next week, we will start the lab with the lab professor handing out your copy to another team (which makes your cluster) and the first team back gets bonus marks – to both the finders and creators.

Have fun!

[1] I get several thousand pages of material from students throughout the semester. Work that you submit must be stapled; I cannot deal with loose sheets of paper. You can always access a stapler in the department office at T-307. It's available on a small desk just inside the door. It's there for your use, so you don't need to ask to use it.