CS1428 Lab 09h

# Name: Section:

Today we will begin working on a 3 week project that simulates a pseudo form of software development. What this means is you will write code in lab and submit it for grading. I will grade and correct it but it is YOUR responsibility to make the corrections, because with the next two labs I will NOT be giving you starter code. Your started code will be from previous week’s labs.

1. (15 points) What is the difference between passByRef and passByVal. Give **SPECIFIC** examples with code.
2. (15 points) What is function overloading? Give **SPECIFIC** examples with code.
3. (70 points) We are starting our own Text and ASCII based RPG. This week’s program is titled ***MAZE.*** You will write a program that, using 4 keys designated by you, will allow you to move your avatar, *P,* through a matrix to get to the exit.

**THINGS YOU WILL NEED IN YOUR PROGRAM TO ENSURE IT IS READY FOR NEXT WEEK:**

* **Switch Statements:** 2 of them,
  + 1. to determine what key you pressed (This will be in main)
  + determine what you stepped on. (This will be in a function)
* **Functions:**
  + One to determine set the value of ***gameDone*** to true if you have reached the exit. (*E*)
  + 4 functions to move you in the four cardinal directions.
  + 1 function to check the new location and see what is there. (**SWITCH)** If you are allowed to walk on it or have reached the exit return true, otherwise return false.

**Caveats**

* When you move to a new space, your avatar must occupy the new space and the space you left must now be blank floor.
* This maze is a Dungeon and has walls on all sides. What if these walls didn’t exist?
* Boolean functions can be used in an if statement, since they return either true of false.

**Characters in the Maze:**

P = your character

E = the exit

\* = Wall. You can’t walk through walls.

. = Floor. You can walk on floors.

**Note:** Upload your source code **lab09h.cpp** and attach a print out to this worksheet.

**(\*\*Make sure to include the standard header and to name the file correctly\*\*)**