CS 1410-030

Homework #5

Circle your lab start time:

8:35 AM   10:45 AM

9:40 AM   11:50 AM

Name: _____

UID: | U | | | | | | | |

Lab completed: _____ / 15 pts	TA mark: _____	Questions: _____ / 15 pts	Total: _____ / 30 pts

This homework is due Friday, September 21 in lab. You should print out and complete this homework prior to Friday's lab. (Please hand in one sheet of paper with double-sided printing on it.) Write your name and UID above. Your TA will collect your homework after you complete lab. (There will not be time in lab to complete this homework.)

Recursion, Functions, and Review Concepts

1. *(3 points)* Complete this worksheet prior to lab, then arrive on-time to lab. (Being on-time and ready for lab is always worth a few points.)

2. *(2 points)* Use the C++ conditional operator (the ternary operator) to convert this code to a single line (a single assignment statement). (You may assume that `x` and `name` are already declared.)

```
if (x < 10)
  name = "Alice";
else
  name = "Bob";
```

3. *(3 points)* Explain the difference between the `return`, `break`, and `continue` keywords. For each one, explain where it is used and what happens when it is executed.

Continued...

4. *(1 point)* What is the purpose of a function contract? Explain it, and explain how it can make programming easier/faster to write *more* documentation in your program.

5. *(3 point)* What is a `void` function? Describe it, show an example of how a void function is declared, and show an example of how a void function is called.

6. *(1 points)* What is a recursive function?

7. *(2 point)* Students often wrongly believe that local variables are shared between function calls in recursive functions. Explain why this is wrong. (Explain what happens that prevents local variables from being shared in recursive function calls.)