**CS173: Intermediate Computer Science**

**Reading 5**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Read the assigned pages below from our course textbook. Complete the responses to the questions in this document and then save as a docx or pdf file. Submit your work by the assigned deadline on the Canvas course page or in class. Responses may be neatly handwritten or typed. **Put your name at the top!**

Readings: From the course textbook please read Chapter 8. You can skim over the parts on GUI design.

You should come away with understanding:

* how functions are declared and defined
* the different ways variables are passed to functions
* software engineering techniques like assert

**1) In the principle of *functional decomposition* explain the role of the *interface* vs the *encapsulation*.**

**2) What is the difference between a function’s *arguments* and its *parameters*?**

**3) Some people think it is ok to write function definitions without function declarations. In what specific situation is it impossible to write function definitions without using at least one function declaration?**

**4) What is a *local variable* and why is it referred to as local? Answer both parts!**

**5) What is a good style choice for naming functions?**

**6) Explain the difference between a parameter that is passed-by-value from one that is passed-by-reference. Explain both the syntactic differences and also the semantic ones.**

**7) What is the purpose of the *assert()* statement in a c++ program? Also give an example of how it might be used in the following function:**

int compute ( int array[], int size )

{

// we expect size to have a value > 0

...

}