CptS 121 – Program Design and Development
September 14, 2020

Your Name: Devin Moore
ID#: 011044739
TA's Name: Muthuu Svs
Section #: 9

Take Home: Quiz 3 (15 pts) - Introduction to Function in C

Using Blackboard Learn https://learn.wsu.edu/webapps/login/ submit your quiz. You will submit your assignment in the ***lab*** Blackboard space. Under the "Content" link navigate to the "Quiz Submissions" folder and upload your solution to the appropriate "Quiz" space. You must upload your solution, through an attachment, as <your last name>_quiz3.pdf by the due date and time.

1. (3 pts - 1 pt/definition) In your own words, define *formal parameter*, *actual argument*, and *local variable*.

A Formal Parameter is the identifier in the function definition that gets replaced by an argument when the function is called

An Actual Argument is the value, or expression that is in the parenthesis, and gets passed to the function when you call it.

A Local Variable Is a variable that can only be seen, and used in the block of code in which it is declared.

2. (3 pts – 1 pt/advantage) Provide 3 advantages to using functions in our programs.

1. We can reuse code that has a general purpose, like finding the average of some numbers.

2. It can make a program more readable, and less complicated by hiding away complicated sets of instructions or equations.

3. Can make debugging easier. If there is a bug in a function, if you fix the function definition that fix will work wherever that function is called.

3. (3 pts – 1 pt for return type, 1 pt/parameter) Provide the prototype for a function called `volume_cylinder()` that accepts two *floating-point* input parameters, which represent the *radius (r)* and *height (h)* of the cylinder. The function returns the *volume (v)* of the cylinder defined by the two parameters.

```
double volume_cylinder(double r, double h);
```

4. (6 pts – 1 pt for the function header, 3 pts for computation, 2 pts for return value) Provide the function definition for `volume_cylinder()`. Also, be sure to provide the function header for `volume_cylinder()`. Recall: $v = \pi r^2 h$. Note: you may hard code the value for π (pi).

```
double volume_cylinder(double r, double h)
{
   double v = 0.0;

   v = (3.14159) * ( r * r ) * h;

   return v;
}
```

Instructor: Andrew S. O'Fallon