**Prelab Exercises**

1. What is the difference between a variable and a constant?

*A variable is a named memory location to store data, the value in an ordinary variables can change during the program execution while the value of a constant variable cannot change from what it has been initialized to.*

1. Explain what each of the lines below does. Be sure to indicate how each is different from the others.
2. int x;

*Variable declaration*

1. int x = 3;

*Variable initialization (declares a variable and sets a value of 3 at the same time)*

1. x = 3;

*Variable assignment (assigns the value 3 to a variable that’s already declared earlier)*

1. Given the declarations below, find the result of each expression

int a = 3, b = 10, c = 7;

double w = 12.9, y = 3.2;

1. a + b \* c => *73*
2. a - b – c => *-14*
3. a / b => *0*
4. b / a => *3*
5. a - b / c => *2*
6. w / y => *4.03125*
7. y / w => *0.24806201550387597*
8. a + w / b => *4.29*
9. a % b / y => *0.9375*
10. b % a => *1*
11. w % y => *0.09999999999999964*