

CS-141 Practice Problems: Variables and Arithmetic

The following are tasks that a programmer ought to be able to do without much effort:

1. Create a new Netbeans Java Application project and write a program that prints "Hello World".
2. In the main method:
 - a. Declare a variable of some type (e.g. int, float, double, String, boolean)
 - b. Initialize the variable.
 - c. Print the value of the variable.
 - d. Assign a new value to the variable and print the new value.
3. In the main method
 - a. create two integer variables called x1 and x2
 - b. Initialize x1 and x2 to values of your choice.
 - c. Declare a third variable, x3, whose value is the sum of x1 and x2.
 - d. Print out the result. Use good user feedback, that is, don't just print the value; let the user know what is going on.
 - e. Calculate and print the square root of x3.
4. What are legal variable names? What happens if you use a name that is not legal (try it)? What happens if you declare a variable twice?
5. What are good variable names (as opposed to poor but legal names)?
6. Again, let x be declared as an integer. What is the value of x after the following assignments (test your answers by putting them in your code and printing out the result):
 - a. $x = 2/3;$
 - b. $x = 5/2;$
 - c. $x = 1+8/4;$
 - d. $x = (1+8)/4;$
 - e. $x = 10/7+2;$
 - f. $x = 10/(7+2);$
 - g. $x = 9 \% 4;$
 - h. $x = 9 \% 15;$
7. Suppose y is declared as a floating point number. What is the value of y after the following assignments (test your answers by putting them in your code and printing out the result):
 - a. $y = 3.0/2;$
 - b. $y = 3/2;$
 - c. $y = 3/2.0;$