

Your completed homework assignment should be submitted on Spark. Please see the instructions on completing the assignment in the Homework 3 Spark page.

1.) Suppose *result* is an integer variable initialized to the value -3 . If embedded in a program, the following code will result in a compile time error. Why? Explain what occurs when the condition is tested for the “if” statement. How could this code be fixed?

```
if (result = -2)
{
    System.out.println("Yes!");
}
```

2.) If embedded in a program, what would the value of *result* be after this piece of code has executed?

```
int result = 15;

if (result > 10)
if (result < 5)
    result++;
    result--;
if (result > 15 || result == 14)
{
    if (result == 16)
        result = 35;
        result--;
}
```

3.) If embedded in a program, what would the output of the following code be?

```
int val = 3;
double varb = 7;

varb = varb/val;

if(varb == 2)
    System.out.println("one");
else
    val = (int) varb - val;
if(val == 3)
    varb = val - varb;
System.out.println("two");
System.out.println(val);
```

4.) Write a program that asks the user to input two strings, compares them, and then prints out whether the two strings are equal. The strings must be compared in a method that accepts two strings as parameters. You may decide how the rest of your program works as long as it is functional. Please submit two screenshots of your program. One should show how your program responds to identical input and the other to different input.

5.) Using Java, design a gambling program that could be run on a slot machine. Base the design on the following specifications:

- a.) Create an integer array and fill it with twenty random numbers that range from zero to ten.
- b.) Declare a variable *start* of type integer and initialize it to 100.
- c.) Design a loop that takes each element in the array and subtracts it from the variable *start*.
- d.) After the loop has finished print out the value of *start*. If that value is less than zero, print out "You won!"
If *start* is greater than zero, print out "You lost."

Show a screen shot of your program running and the results.

6.) Suppose the more money the gambler puts in the slot machine, the larger the range of values entered into the array. Rename the previous class and modify your program to account for this flexibility. Base your modification on the following specifications:

- a.) Ask the gambler how much money he wants to put into the machine. The amount entered should represent the upper limit of the random values entered into the array. For example, if eleven dollars are entered, the values entered into the array should range between zero and eleven.
- b.) At the end of your program, where the final value of *start* is printed, also print out the amount of money entered.

Show two screen shots of your program running with different dollar amounts entered.