**Written Assignment 1 – Review Topics CSC 123 Spring 2021**

Notes: The written assignment must be submitted via e-mail. All parts of assignment must be submitted in a single e-mail. You can download the file and fill in the answers

Notes: All homework must be submitted via e-mail. All parts of assignment must be submitted in a single e-mail with multiple attachments.

E-mail address is:

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The file should be submitted with your name using the following format:

**RosenthalH\_WAx.doc**, where x is the assignment number. Note: use your name, not mine

All answers will be posted on web site, and some may be reviewed in class.

**Short Answers.**

1. A value that is passed into a method when it is called is known as a(n) \_\_A\_\_\_\_\_\_\_.
2. argument
3. parameter
4. signal
5. return value
6. A variable that receives a value that is passed into a method is known as a(n) \_\_\_\_B\_\_\_\_\_.
7. argument
8. parameter
9. signal
10. return value
11. What will be output from this code snippet? \_\_\_\_C\_\_\_\_\_  
      
    String[] strArray1; // Array declaration  
    strArray1 = new String[1]; // Array allocation  
    System.out.println(strArray1[0]);
12. Doesn't compile
13. Nothing
14. null
15. " "
16. What are the method name and method parameters components collectively known as? \_\_\_\_\_C\_\_\_\_
17. method body
18. method list
19. method signature
20. method protocol
21. The first subscript in an array is always \_\_\_\_A\_\_\_\_\_.
22. 0
23. 1
24. 21
25. 1 less than the number of elements
26. Assume that inputFile references a Scanner object that was used to open a file. Which of the following while loops is the correct way to read data from the file until the end of the file is reached? \_\_\_\_\_D\_\_\_\_

|  |
| --- |
| 1. while (inputFile.nextLine == " ")   { ... } |
| 1. while (inputFile != null)   { ... } |
| 1. while (!inputFile.EOF)   { ... } |

1. while (inputFile.hasNext())

{ ... }

1. When working with the PrintWriter class, which of the following import statements should you have near the top of your program? \_\_\_\_C\_\_\_\_\_

|  |
| --- |
| 1. import javax.swing.\*; |
| 1. import javac.io.\*; |
| 1. import java.io.\*; |
| 1. import java.file.\*; |

1. Given the following statement, which statement will write the string "Calvin" to the file DiskFile.txt? \_\_\_D\_\_\_\_\_\_

PrintWriter diskOut = new PrintWriter("DiskFile.txt");

|  |  |
| --- | --- |
|  | 1. System.out.printf(diskOut, "Calvin"); |
|  | 1. PrintWriter.printf("%s\n”, Calvin"); |
|  | 1. DiskFile.printf("%s\n”, Calvin"); |
|  | 1. diskOut.printf("%s\n”, “Calvin"); |

1. Which of the following is the method you can use to determine whether a file exists? \_\_\_C\_\_\_

|  |  |
| --- | --- |
|  | 1. the File class's canOpen method |
|  | 1. the Scanner class's exists method |
|  | 1. the File class's exists method |
|  | 1. the PrintWriter class's fileExists method |

1. True or False: Parameters passed to a method are within the method’s scope? \_\_\_\_True\_\_\_\_\_
2. True or False: Each time a scope is entered the *local* variables that are declared with an initializer are reset to the initializer value? \_\_\_True\_\_\_\_\_\_
3. True or False: A formal parameter variable’s scope is the entire program that contains the method in which the parameter is declared. \_\_\_\_\_False\_\_\_\_
4. True or False: When code in a method changes the value of a formal parameter, it also changes the value of the actual parameter that was used to call the method. \_\_\_\_False\_\_\_\_\_
5. True or False: When passing an argument to a method, Java will not automatically perform a narrowing conversion (convert the argument to a lower-ranking data type), if necessary. \_\_\_\_\_\_True\_\_\_
6. True or False: When an if statement is nested in the if clause of another statement, the only time the inner if statement is executed is when the boolean expression of the outer if statement is true. \_\_\_\_True\_\_\_\_\_
7. True or False: When an array reference is passed to a method, the method has access to the original array. \_\_\_\_True\_\_\_\_\_
8. True or False: The subscript of the last element in a single-dimensional array equals the length of the array. \_\_\_\_False\_\_\_\_\_
9. True or False: The break statement exits all loops and continues at the next line? \_\_True\_\_\_\_\_\_\_
10. True or False: To calculate the total number of potential iterations of a nested loop, multiply the number of iterations of all the loops. \_\_\_\_True\_\_\_\_\_
11. How many bytes are reserved for myArray: double [][] myArray = new double [8][10]?

\_\_\_\_\_8\_\_\_\_\_\_

1. What is the problem with the following overloaded method that returns a product as either an int or a long?

int mul(int a, int b) long mul(int a, int b)

{ {

return a \* b; return a \* b;

} }

Ans: Method overload is not possible with different return types

Determine the output of the following code segments or point out the error. (22-27)

int num = 5;

num = num++;

System.out.printf(“%d”, num); //Ans.: \_\_\_5\_\_\_

int num = 5;

num = ++num;

System.out.printf(“%d”, num); //Ans.: \_\_\_\_6\_\_\_\_\_

int num = 5;

num = num++ = ++num;

System.out.printf(“%d”, num); //Ans.: error: “unexpected type”, because we cannot do two assignment operations in a single statement

int num = 5;

num /= 3;

System.out.printf(“%d”, num); //Ans.: \_\_\_\_1\_\_\_\_\_

int num = 5;

System.out.printf(“%d”, (num += 5)); //Ans.: \_\_\_10\_\_\_\_\_\_

int num = 5;

System.out.printf(“%d”, (++num + num++)); //Ans.: \_\_\_12\_\_\_\_\_\_

Identify the error (if any) in each case below (28-35). Write a correct version

1. String howAboutThat = new String('a');

Ans: it should be String howAboutThat = new String(“a”); because character cannot be converted into string

1. String String = "String";

Ans: This works but is a terrible idea to use String as a variable name

1. Random randomNum = 3;

Ans: This throws an error because Random is a class and here it is being used as a datatype.

It should be Random randomNum = new Random();

1. Random x = Random();

Ans: It should be Random x = new Random(); because new object of class random should be created where it is used.

1. Random y = new Random(3);

Ans: no error

1. import Java.util;

Ans: import java.util.\*;

1. String y = "testme"; y += char(33);

Ans: String y = “testme”;

y += (char)33;

1. String w = " Why Me? "; int temp = w.trim.length();

Ans: String w = “Why Me? ”;

int temp = w.trim().length();

1. What are the values stored in the array a after the following code executes?

int [] a = new int[10];

for (int i = 0; i < a.length; i++)

a[i] = 2\*i– 1;

|  |  |
| --- | --- |
| Cell | Value |
| a[0] | -1 |
| a[1] | 1 |
| a[2] | 3 |
| a[3] | 5 |
| a[4] | 7 |
| a[5] | 9 |
| a[6] | 11 |
| a[7] | 13 |
| a[8] | 16 |
| a[9] | 17 |

Find the error(s) in each of the following code segments in 37 and 38

int[] a;

a = new int[255];

a[0] = a.length;

a[0]--;

a.length--;

a[a[0]] = 2;

Ans: error at a.length--; as length acts as a constant final variable

int[] b = new int[9];

int[][] a;

a = new int[255][];

a[0] = b;

a[0][3] = 9;

a[3][0] = 9;

Ans: Does not throw any error

Find and explain the errors in each of the following Java statements (39-42) , or state that there is no error.

1. File myFile.txt = new File();

Ans: error – myFile is being referred as an object here, .txt cannot be used for an object while creating it. It should be File myFile = new File(“myFile.txt”);

1. File MyFile = new File();

Ans: error – no arguments passed to File() method

1. File f = new File(myfile.txt);

Ans: myfile.txt is being passed as an argument so it should be inside “”, it should be File f = new File(“myfile.txt”);

1. String text = "myfile.txt"; File myFile = new File(text);

Ans: no error