44-542 Object Oriented Programming

Exam 1 Part 2 Version A KEY (60 pts total)

1. Write the syntax for compilation and execution commands of Java using command line prompt. Use the below example. (5 points)
   * File name: “Compartment.java”
   * Class name: “Compartment”

Compilation: javac Compartment.java

Execution: java Compartment

1. Write the prototype and signature of the below method in the given blanks. (5points)

public boolean isMatch(double lenghthIn, double breadthIn){

//code…

return false;

}

Prototype public boolean isMatch(double lenghthIn, double breadthIn)

Signature isMatch(double, double)

1. Assume one space is in between the words given in myString and write the output for the following Java statements. (5 points)

String myString = "Once a Bearcat Always a Bearcat";

  System.out.println(myString.charAt(7));

  System.out.println(myString.substring(8,15));

    System.out.println(myString.indexOf("Always"));

     System.out.println(myString.indexOf("a"));

    System.out.println(myString.indexOf("x"));

OUTPUT for 3

B

Earcat(one white space)

15

5

-1

1. Write one line statement to return the square root value of number 4 by calling a method defined in the Math class. You need to declare a variable, named rootValue, to store the value returned after calling the method. Be sure to do this in one line of Java code. (5 points)

double rootValue = Math.sqrt(4); \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Declare and create an array of type String with 100 values. Use capitals as the array name. (5 points)

Declare: String [] capitals;

Create: capitals = new String[100];

1. Write the output for the following Java statements. (5 points)

int a = 6;

int b = 7;

int c = 13;

System.out.println(a/b == 0);

System.out.println(a%b%c >= 6);

System.out.println(a\*b\*c == 546);

System.out.println(a-a\*b+c-4 >= 27);

System.out.println(a-b>4 && (c%b)<=1 || c-a>=7 && c!=13);

OUTPUT for 6

true

true

true

false

false

1. myArray and yourArray are two arrays of type String. Using System class, copy ten elements from myArray starting from subscript ‘1’ to yourArray beginning at the subscript of ‘1’. (5 points)

System.arrayCopy(myArray, 1, yourArray, 1, 10);

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1. Write a single Java statement to declare and initialize a two-dimensional array of int values. The array should be named numbers. It should have 3 rows and 7 columns. (3 points)

int [] [] numbers = new int [3] [7];

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Write only the output in the given space. If you want to trace you can use a separate sheet. It will be not be graded. (10 points)

OUTPUT for 10

inner: 4

inner: 4

inner: 4

outer: 3

12 11 2

//initialize variables

int i = 8;

int j = 0;

int k = 6;

int outerLoopCount = 0;

int innerLoopCount = 0;

while (i>=(j+k)){

outerLoopCount++;

j += 1;

while(j<=8){

innerLoopCount++;

k -= 1;

j += 2;

if(j+k == i){

i +=2;

}//end if

}//end inner while loop

System.out.println(“inner:”+innerLoopCount);

}//end outer while loop

System.out.println(“outer: ”+outerLoopCount);

System.out.println(i+" "+j+" "+k);

1. Trace x, y, and z values in the below Java code. Write those values in the given space. (7 points)

int x = 5; int y = 20; int z = 0;

|  |  |  |
| --- | --- | --- |
| Trace 10: | | |
| x | y | z |
| 5 | 20 | 0 |
| 7 | 19 | -2 |
| 9 | 18 | -4 |
| 11 | 17 | -1 |
| 13 | 16 | 2 |
| 15 | 15 | 5 |
| Final Output:  15 15 5 | | |

while(x < y) {

x += 2;

y -= 1;

if(x + y > 27) {

z += 3;

} else {

z -= 2;

}

}

System.out.println(x + " " + y + " " + z);

1. Write the output for the below Java source code in the given space. (5 points)

for(int p=0; p<1; p++){

OUTPUT for 11

Hello

Hello

Hello

Hello

Hello

Good-bye to exam1!

for(int q=0; q<5; q++){

System.out.println("Hello");

}//End for:p

System.out.print("Good-bye to ");

}//End for:q

System.out.println("exam1!");