CS 1301

Final Exam

60pts

Name:

1. What will be the output of the following Java methods: (3pts)
2. Math.pow(2, 1) // 2.0
3. Math.ceil(-2.1) // -2.0
4. Math.floor(-1.1) // -2.0
5. What output is produced by the following code fragment? (4pts)

int number = 19;

while (number > 0) {

number = number - 3;

if (number == 4)

break;

System.out.print (number+"\t");

}

16 13 10 7

1. For the questions below, assume values is an int array that is currently filled to capacity, with the following values: (2pts)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 4 | 2 | -4 | 3 | 6 | 7 | 4 |

1. What is returned by values[4]? // 3
2. What is the value of values.length? // 7
3. What output is produced by the following code fragment? (2pts)

int total = 10;

int max2 = 20;

total = (total > max2) ? total + 1: total \* 2;

System.out.println (total);

20

1. What is the output of the following code? (4pts)

int[][] matrix = {{1, 2, 3, 4}, {4, 5, 6, 7}, {8, 9, 10, 11}, {12, 13, 14, 15}};

for (int i = 0; i < 4; i++)

System.out.print(matrix[i][3] + " ");

4 7 11 15

1. Consider the following code snippet:

int userInput = input.nextInt();

int score = 0;

switch(userInput % 2)

{

case 0:

score = userInput + 5;

break;

case 1:

score = userInput \* 5;

break;

}

System.out.printf(“Score: %d”, score);

1. What would the user have to enter to get an output of Score: 35? (2pts)

30 or 7

1. What would the user have to enter to get an output of Score: 65? (2pts)

60 or 13

1. What will be the configuration of myList array after the following code? (5pts)

int[] myList = {5, 4, 3, 2, 1};

for (int i = myList.length - 2; i >= 0; i--) {

myList[i + 1] = myList[i];

}

5 5 4 3 2

1. What output is produced by the following code fragment? (4pt)

int num = 8;

int max = 29;

while (num < max){

if ( num %5 == 0)

System.out.print (num + "\t");

num++;

}

10 15 20 25

1. Multiple Choice: (16 x 2 = 32pts)

If a method does not have a return statement, then

a. it will produce a syntax error when compiled

b. it must be a void method

c. it cannot be called from outside the class that defined the method

d. it must be defined to be a public method

e. it must be an int, double, float or String method

If x is an int where x = 0, what will x be after the following loop terminates?

while(x < 100)

x = x \* 2;

a. 2

b. 64

c. 100

d. 128

e. None of these, this is an infinite loop

What is the result of 15 / 4?

a. 3

b. 4

c. 3.75

d. none of these

Which of the following expression results in a value 1?

a. 2 % 1

b. 15 % 4

c. 1 % 1

d. 1% 6

What is x after the following statements? int x = 2; int y = 2;

x \*= y + 1;

a. x is 2.

b. x is 4.

c. x is 6.

d. x is 8.

Which of the following is a legal Java identifier?

a. 1ForAll

b. oneForAll

c. one/4/all

d. 1\_4\_all

e. 1forall

Which of the following statements is correct?

a. Every line in a program must end with a semicolon.

b. Every statement in a program must end with a semicolon.

c. Every comment line must end with a semicolon.

d. Every method must end with a semicolon.

e. Every class must end with a semicolon.

Which of the following is the correct expression that evaluates to true if the number x is between 1 and 100 or the number is negative?

A) ((x < 100) && (x > 1)) && (x < 0)

B) ((x < 100) && (x > 1)) || (x < 0)

C) (1 > x > 100) || (x < 0)

D) 1 < x < 100 && x < 0

What will be the result of the following assignment statement? Assume

b = 2 and c = 4. int a = b \* (-c + 2) / 2;

a. 4

b. 2

c. -2

d. none of these

Assume that x, y, and z are all integers (int) equal to 50, 20, and 6 respectively. What is the result of x / y / z?

a. 0

b. 12

c. 16

d. A syntax error as this is syntactically invalid

e. A run-time error because this is a division by 0

What is output with the statement System.out.println(x+y); if x and y are int values where x=5 and y=5?

a. 10

b. 55

c. 5 5

d. x+y

e. An error since neither x nor y is a String

What is output with the statement System.out.println(""+x+y); if x and y are int values where x=10 and y=5?

a. 15

b. 105

c. 10 5

d. x+y

e. An error since neither x nor y is a String

The expression "Java " + 1 + 2 + 3 evaluates to \_\_\_\_\_\_\_\_.

a. Java123

b. Java6

c. Java 123

d. java 123

e. Illegal expression

(int)(Math.random() \* (65535 + 1)) returns a random number \_\_\_\_\_\_\_\_.

a. between 1 and 65536

b. between 1 and 65535

c. between 0 and 65535

d. between 0 and 65536

Which of the following would return the last character of the String x?

a. x.charAt(0);

b. x.charAt(last);

c. x.charAt(length(x));

d. x.charAt(x.length( )-1);

e. x.charAt(x.length( ));

Having multiple class methods of the same name where each method has a different number of or type of parameters is known as

a. encapsulation

b. information hiding

c. tokenizing

d. importing

e. method overloading