CS 1331 EXAM 1 SAMPLE QUESTIONS

1. Define the following terms:

a. Instantiation: The initializing of a variable.

b. Bytecode: Compiler language that the computer understands (1s and 0s)

c. Encapsulation: Not needing to know the specifics of how a function performs what it does, it has its own scope.

d. Compiler: The system that takes in the code you wrote and converts it into bytecode for execution of the program.

2. Write a class named StringFun that reads a string (possibly multiple

words) from the user and then prints out the first and last

character from that string back to the user.

3. Assume you are using the Random class, write a line of code that

returns

1. A random integer between -50 and 50

Math.Random(100) – 50;

b. A random real number between 0.3 and 0.4

Math.Random()/10.0 + 0.3;

4. Write the value and the data type of the expression in the space

provided below

a. 8 - (6 \* (5 \* (3 / 1.5))) + 2

b. 6 - 3 \* 4 + 5 / 2

c. ( ( (8 + 3) + (10 % 3) ) \* ( 5 - 3) )

d. 19 % 10 % 6

e. (int) (5/2.0)

f. 9 / (float)3 + 2 - (7 / 2)

5. The following code segment has a compilation error. Explain what

the error will be and why it will occur.

float val;

double d1, d2;

d2 = 10.0;

d1 = d2 / 2;

val = 4 + (2.0 \* d1);

System.out.println("the value is " + val);

6. What does the following code print when

a) m=7 n=7 b) m=3 n=5 c) m=0 n=2

// read in integers m and n

int z = ((m > 0) && (m == n-2)) ? m+1 : n+1;

switch (z) {

case 0:

System.out.println(z);

break;

case 1:

case 2:

System.out.println(z);

System.out.println("could be either");

case 3:

System.out.println("Getting bigger");

break;

default:

System.out.println("Nothing specific");

}

7. Write a segment of code that given an integer n (here 5), prints out

1 1 1 1 1

2 2 2 2

3 3 3

4 4

5

8. Suppose that the hypothetical froogle function, fr(x), is

calculated as absol((x-1) \* (x+1)) where absol(x) is the

absolute value of x.

Write a program that reads in a double value for x from the

user, calculates fr(x), and then prints it out.

9. Write a segment of code that, given an integer array a which is

filled with values, creates a new second array that is twice as

long. In the first half of the array should be all of the same

values as in the first, and in the second half of the array

should be the values that are twice as large as the corresponding

ones in the initial array.

10. What's wrong with the following code segment?

int i,j;

String[] names;

names[0] = new String("mary");

names[1] = "john";

i = names.length;

j = names[0].length();