CSE1325 OOP Final

July 16, 2013

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Instructions:

1. Read all of the instructions for each question and answer what is asked. Do not write down random stuff if you don’t know the answer.
2. The test is worth 100 points and there will be 10 points extra credit available.
3. If you have a question during the test, raise your hand and ask the proctor. You may or may not get an answer, but you won’t know unless you ask.
4. Check for bonus questions.

1.a. Write a small GUI class to do the following: The class should create a panel that displays a question and two buttons, YES and NO. Based on the user's selected button, the panel should display a message for YES and a different message for NO. All items should be on the same panel. The panel should have a height of 120 pixels and a width of 400, and a background color of green. You may assume that some other part of the program will instantiate this panel and add it to a frame. Also assume that all import statements are already included. {12 points}

The question must be: "Is it true that you have stopped \_\_\_\_\_\_\_ \_\_\_\_ \_\_\_\_\_\_?" where you fill in the three missing words. Examples would be "drinking chocolate milk", "speeding while driving", "eating raw fish", "smoking on campus", etc. (You may use these examples if needed.)

1.b. If a JFrame called jeopardy is created in the test class for the GUI class you wrote, write the Java statement or statements that would be needed to put your panel onto the jeopardy frame.

{4 points}

JFrame jeopardy = new JFrame();

1.c. What method must be called in order for a Java GUI to be seen? {2 points}

Short answers

2. If a method is declared in an interface, is it possible to tell if that method is abstract without knowing anything else? Why? {4 points}

3. What is the difference between overriding a superclass method and overloading a class method?

{4 points}

4. What are the three key features of OOP? Briefly describe. {9 points}

5. Where does manipulation/use of textfield input occur? {4 points}

6. Match the keyword or term to closest related topic: {3 points each; 15 points total}

extends A. Object instantiation

abstract B. Interface

new C. Type description

class D. Inheritance

implements E. Superclass

7. List all the primitive numeric data types {6 points}

8. List at least three numeric data type classes in Java and describe at least one reason why each class is better than the corresponding primitive. Do not repeat reasons. {9 points}

9. Use the code to answer the questions that follow:

// Assume there is a declaration for inValue here // Line A

Scanner inLine = new Scanner(System.in);

boolean done = false;

String inText;

do {

try {

System.out.println("Enter: "); // Line B

inText = new String(inLine.nextLine());

inValue = new Double(inText); // Line C

Double chk = new Double(0);

chk = inValue \* 100;

if (chk.intValue() != chk) { // Line D

System.out.println("You entered too many decimal places");

}

else if (chk % 100 == 0) { // Line E

System.out.println("You entered an integer");

}

else {

done = true; // Line F

}

}

catch (NumberFormatException nfe) { // Line G

System.out.println("Your input was not valid ");

}

} while (!done);

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

9.a. Describe what the code above is doing. Do not simply describe the Java statements in words – describe what the whole chunk of code is doing in a sentence or two. {8 points}

9.b. What is happening at Line C? {4 points}

9.c. Given the three lines of code – above Line D, Line D, and below Line D – can you determine how many decimal places the value should have? If yes, tell how you know and the required number of places. If no, tell why you cannot determine. {5 points}

9.d. What does Line E and the line after tell you about the input requirements? {4 points}

9.e. What kind of input would cause the catch statement to be used? Give an example input that would be caught. {4 points}

9.f. Give an example of a good output message to the user that should be at Line B. {6 points}

Extra Credit questions

XC1. What two libraries do Java programmers primarily use for GUIs? {2 points}

XC2. Why can't we instantiate an object of abstract class? {3 pts}

XC3. Name at least three JAVA GUI components and describe what they are for. Do not use JButton or JPanel. {3 pts}

XC4. Answer the question below: {ANY answer will receive 2 points. }

Chicken foghornLeghorn = new BarnyardFowl();

Street sesameSt = new Road();

char Y;

//did the

foghornLeghorn.crossthe(sesameSt) ?