Loyola University Chicago

department of computer science

exam one

comp 170

introduction to OO Programming

Write your name here: JEFFREY Ricketts-hagan

Note the value of each question shown below and use your time accordingly.

Explain your answer if you think it is necessary.

Exam is open book, open lab tools, and you can use the IDE (IntelliJ) and your personal notes.

NO OTHER WEB ACCESS ALLOWED

*All work in this examination is to be your own and original creation done during the time of the exam. Cheating in any manner will severely impact your academic standing. Do not cut and paste answers from anywhere. Do not get help from anyone.*

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| --- | --- | --- | --- |
|  | Question | Grade | Possible |
| 1 | Writing Code |  | 25 |
| 2 | Reading Code |  | 25 |
| 3 | Multiple Choice |  | 20 |
| 4 | Writing Code |  | 30 |
|  | TOTAL |  | 100 |

**question 1: Writing Code**

{25 points} Think before programming!

Write a method called sayHello that takes one parameter of type int. It prints out the line **Hello There!** one half as many times as the value of the parameter (round down if the parameter number is odd).

In main, get user input of a number then call sayHello, passing the value from the user. Use Scanner170 (or Scanner if you wish).

BE SURE to separate your program into main and the method and use a method call with a parameter.

Turn in your .java file.

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**question 2: reading code**

{five parts, 5 points each, total 25 points} Read the following code and figure out what each one does. Be sure to watch for some of the errors typically found in Java programs. Write your answer in the space shown below for each question.

* Which of the following fragments of Java is the correct syntax for declaring a real number variable named myGPA and initializing its value to 4.0?
* int myGPA = 4;
* 4.0 = double myGPA;
* myGPA = (double) 4.0;
* double myGPA = 4.0;
* myGPA -> 4.0;

ANSWER (give the letter of the best answer): D

* 3. and 4. Read the code below and answer with the output when the code is run. What will this code print out? (The code is correct – it compiles and runs)



Write your answers here (the output from the code when it runs):

Q2.2: Answer is: 10 and 1

Q2.3: 4

Q2.4: Hello World!

Let's Program

* How many times does this loop run (how many lines does it print)?..



ANSWER: Six times

**Question 3: Mulitple choice**

{5 points each, 20 total} Explain your answer if you think necessary. Full points for the correct answer, no points for incorrect answer. To ANSWER, put an X in front of the text of the correct answer or answers.

* Which of the following are **NOT** valid Java literals (select all the incorrect ones)? Literals can be used in expressions in programs.
* 1998. //note the decimal point at the end
* 1,000,000 //one million
* -2568.9 //big negative
* **X** MyName //some text **The String should have quotations " "**
* The + operator in Java is used to (give the one best answer):
* Add two integers, or add two doubles, or concatenate multiple strings together
* Add two numeric expression values together, or concatenate two string values, or concatenate a string value and a number
* **X** Add together two literal values of any type including double, int, Boolean, and String
* Add some number of constants or literals to a variable of type int, double, or String
* According to our programming style guidelines, Java class names should usually be
* Nouns, written with InitialCapitalLetter
* Verbs, written in lowercase
* **X** Nouns, written in camelCase
* Nouns, written in FULL\_CAP\_LETTERS
* Think about the concept of “parameter” in Java. Which statement best describes the concept?
* Parameters are used to pass information between separate methods in a program
* Parameters always have a specified type
* It’s important to distinguish between “formal” and “actual” parameters
* **X** All of the above

**question 4: Write a Program**

{30 points} Write a complete static method named **printMultiples** that accepts, in order, an integer **number** and an integer **howMany** as parameters and that prints a complete line of output reporting the first howMany multiples of number. For example, the following calls:

printMultiples(3, 5);

printMultiples(7, 3);

should produce this output:

The first 5 multiples of 3 are 3, 6, 9 , 12, 15

The first 3 multiples of 7 are 7, 14, 21

Notice that the multiples are separated by commas and a space. You must exactly reproduce this format. You may assume that the number of multiples you will be asked to generate is greater than or equal to 1. Your method must work with any value of **number** including negative numbers and zero.

Write a main method that tests your printMultiples method.

\*\*\*Call it at least three times from main. \*\*\*

\*\*\*Include pseudo code as comments. Use proper programming style.\*\*\*

HOW TO TURN IN YOUR WORK FOR THIS EXAM:

To turn in your two programs, add the .java files to the Sakai assignment. Be sure you save your final version.

To turn in your text answers add the text file (.doc, .docx, or .pdf, **NO .pages files from Macs**). Be sure your save your final version.

**Submit three files**, **do not zip**. Allow time to check that the correct files are successfully saved with the assignment before you submit! No exceptions.

SAVE your files first; then check to be sure they are correct before you submit.