Assignment\_3\_readingAndQuestions

Due date:

Course: FDU CSCI-3307 Java

Instructor: ilker Kiris

Student: Paul Jerchaflie

**DIRECTIONS**

1. **Copy** this file to **ass3-readingAndQuestions-yournameLastName** and work on it
2. Please read the below specified sections from our book

Java - How to Program, Early Objects”, Deitel & Deitel", latest edition (i.e Early Objects 10th Edition)

1. Write your answers to book questions properly labeled.
2. Write your answers to provided “Related questions” below them
3. For questions that are programming, follow the directions in below section

**SETUP and how to submit programming questions**

1. Create Java Project (highly suggesting to create it in STS) called ass-3-littlePrograms and put the java packages into a source directory called src
2. You can use <https://github.com/fdu-3307/example-1-operationsOn2numbers>, as how you should organize packages, what to have in .gitignore, README.md, …,
3. Use package and file names like following example. For example for **question** **2.6** in **chapter 2** that requires programming, create a package **com.mycompany.ass2.chapter2** , create a class called **Program\_2\_6**. For example for question 7 in Related Questions (RQ) of 2nd chapter, create a class called **Program\_RQ\_2\_7**. For example to re-write the code in Figure 6.10 of chapter 6, create a class called **Program\_Fig\_6\_10**.
4. Have a README.md file at root (top) level of project explaining what is happening
5. Create a class diagram (highly suggesting to install ObjectAid eclipse plugin to STS and using that to create class diagram and an image of the class diagram and put them to directory called *design* under root level). Call that classDiagram , have all your program classes in it.
6. Use you github organization called **csci3307-ass-yournameLastname**. Create it if you have not already.
7. Create a github repository called **ass-3-littlePrograms-yournameLastname** in above organization
8. Create a local project directory based git repository of your project, commit your code (first add to index then commit) to local repository, then set above created github repository as remote repository for the project and finally push to remote github repository
9. **Email** ilker at ilkerkiris@gmail.com the link to your above created github repository. **Also** make sure to write that link in your copy of this file.

**Book’s Chapter 6 - Sections to read and book questions to answer**

1. Read sections 6.11, 6.12.
2. Answer questions 6.1, 6.2, 6.4, 6.5
3. Write program for code that is in figure; 6.10

6.1

1. Method call
2. Local variable
3. Return
4. void
5. top
6. last in-first out
7. return, a return expression, or a closing curly brace
8. SecureRandom
9. Stack Frame, activation record
10. Stack overflow error
11. scope
12. overloading

6.2

1. Craps body
2. rollDice body
3. Craps body
4. Craps body
5. Main body

6.4

1. double hypotenuse(double side1,double side 2)
2. int smallest(int x,int y, int z)
3. void instructions()
4. float intToFloat(int number)

6.5

void g()

{

System.out.println("Inside method g");

void h()

{

System.out.println("Inside method h");

}

}

You cannot declare a method within a method, move the red text outside of method g()

int sum(int x, int y)

{

int result;

result = x + y;

}

This method must return an int, add return result to end of the inside of method body

1. void f(float a);

{

float a;

System.out.println(a);

}

The float a inside the method body is illegal because the variable name a already exists, to fix this delete float a from within the method body

void product()

{

int a = 6, b = 5, c = 4, result;

result = a \* b \* c;

System.out.printf("Result is %d%n", result);

return result;

}

The return statement is illegal, the method header specifies that the return type is void. To fix this, change the return type to int

**Related questions (RQ)**

1. What is the difference between method overloading and method overriding?

Overloading changes the method’s parameters where overriding does not

1. Can you overload constructors?

Sure you can

1. Can an overloaded method return a different type?

no

1. What is method overloading?

Declaring a method with the same name as an existing method but with different parameters

1. What is method overriding?

Declaring a method with the same name as a parent class’ method (no change to parameters)

1. What are 4 access modifiers for methods?

public, private, protected, default (package)

1. What is the difference between a static method and instance (normal) method?

An instance method requires an object to call it upon whereas a static method does not need an object instantiated to call it.

1. What is the result of below?

public void main(String[] args) {

System.out.println(myMethod());

}

public String myMethod() {

return “Hooppa”;

}

The console will display:

Hooppa

**Book’s Chapter 7 - Sections to read and book questions to answer**

1. Quick scan read sections 7.3, 7.11, 7.13, 7.16
2. Read code in Figure 7.2, 7.3, 7.4, 7.5, 7.17, 7.20
3. Answer questions 7.2, 7.5

7.2

1. False, an array can only store a single data type
2. False, it is normally of type int
3. True
4. Idk

7.5

1. Final int ARRAY\_SIZE=10;
2. double ary[ARRAY\_SIZE]={0,0,0,0,0,0,0,0,0,0};
3. ary[3]
4. ary[8]=1.667;
5. ary[5]=3.333;

**Programming (Definitely do NOT copy paste, make sure you type it yourself)**

1. Create a class **Exp7\_HelloArray**, that is basically you re-typing code in

**https://github.com/fdu-3307/exp2b\_HelloArray**

1. Create a class **Exp7\_HelloArrayList**, that is basically you re-typing code in

**https://github.com/fdu-3307/exp2b2\_HelloArrayList**

**Related questions (RQ)**

1. Can you pass negative number as an array size?

no

1. Can you change the size of the array once you define it?

No

1. What is the difference between int[] intArray1, int intArray2[]?

nothing

1. Is there anything wrong with below code?

int[] a = new int[10];

int[] b = new int[100];

a=b;

no

1. What is the result of below?

int[] intArray = {10, 20, 30, 40,50};

for(int i=0; i< intArray.length; i++) {

System.out.print(“index:” + i + “, value:” + intArray[i]);

}

index:1, value:10

index:2, value:20

index:3, value:30

index:4, value:40

index:5,value:50

1. What is result of below?

int intArray[2];

System.out.println(intArray[0]);

System.out.println(intArray[1]);

errors

1. What is the result of below?

int intArray[] = new int[2];

System.out.println(intArray[0]);

System.out.println(intArray[1]);

Prints 0 and 0

1. What is the output of below?

 int arr1[] = {1, 2, 3};

 int arr2[] = {1, 2, 3};

  if (arr1 == arr2)

           System.out.println("Same");

  else

    System.out.println("Not same");

Not same

1. What is the result of below?

 int arr1[] = {1, 2, 3};

 int arr2[] = {1, 2, 3};

  if (arr1.equals(arr2))

           System.out.println("Same");

  else

    System.out.println("Not same");

Not Same

1. How do you access 3rd element of an array, int[] intArray?

intArray[2]

1. Write a for loop to set all elements of “int[] intArray = new intArray[3]” to 300;

for (int x=0;x<intArray.length;x++){

intArray[x]=300;

}

1. How do you get size of below array?

Float[] floatArray = {300f, 301f, 302f, 303f};

floatArray.length

1. What is the result of below?

Float[] floatArray = {300f, 301f, 302f, 303f};

System.out.println(“floatArray” + floatArray);

The text floatArray followed by the memory address of floatArray

1. Write a System.out.println to print an array, float[] floatArray, on console

for (int x=0;x<floatArray.length;x++){  
 System.out.println(floatArray[x]);  
}

**Book’s Chapter 8 - Sections to read and book questions to answer**

1. Quick scan read section 8.13
2. Read and understand the code in figures 8.4, 8.5

**Programming**

1. Create a class **Exp8\_HelloConstructor**, that is basically you re-typing code in

**https://github.com/fdu-3307/exp2c\_HelloConstructor**

**Related questions (RQ)**

1. If you don’t write any constructor for MyClass, does Java give you one behind the scenes? If so what is it called? If so, what is its full signature?

Yes, it is called the default constructor, the signature is public and there are no parameters

1. What will be result of below?

public class MyClass {

private String name;

public MyClass(String \_name) {

this.name = \_name;

}

public void printName() {

System.out.println(“name:” + name);

}

public static void main(String[] args) {

MyClass myClass = new MyClass();

myClass.printName();

}

}

Error, because there is no constructor for MyClass with no parameters

There is no default constructor