

Seneca College

Applied Arts & Technology
SCHOOL OF COMPUTER STUDIES

JAC444**Submission date:****July 28, 2023**

Workshop 8

Description:

The following workshop lets you practice basic java coding techniques, creating classes, methods, using arrays, Java I/O, inheritance, polymorphism, Exceptional Handling, JavaFx (GUI), Lambda expressions, Functional Interface.

Task 1: (Lambda Practice)

This task asks you to write a few lambda expressions and a function that returns a lambda expression as its value.

Suppose that a functional interface named *DoubleArrayFunctions* is defined as

```
@Functional Interface
public interface DoubleArrayFunctions {
    double applyDouble( double[] array );
}
```

- Write a class that defines four *public static final* variables of type *DoubleArrayFunctions* that process an array in the following ways:
 1. find the maximum value in the array
 2. find the minimum value in an array
 3. find the sum of the values in the array
 4. find the average of the values in the array.
- In each case, the value of the variable should be given by a lambda expression.

The class should also define a function

```
public static DoubleArrayFunctions counter( double value )
{ ...
```

- This function should return an *DoubleArrayFunctions* that counts the number of times that *value* occurs in an array.
- The return value should be given as a lambda expression.
- The class should have a *main()* routine that tests your work.

- Ask the user to give array elements.

Workshop Header

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Workshop #

Course:<subject type> - Semester

Last Name:<student last name>

First Name:<student first name>

ID:<student ID>

Section:<section name>

This assignment represents my own work in accordance with Seneca Academic Policy.

Signature

Date:<submission date>

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Code Submission Criteria:

Please note that you should have:

- Appropriate indentation.
- Proper file structure
- Follow java naming convention
- Document all the classes properly using JavaDoc
- JavaDoc should be generated properly in the project
- Do Not have any debug/ useless code and/ or files in the assignment

Deliverables and Important Notes:

All these deliverables are supposed to be uploaded on the blackboard once done.

- You are supposed to create **video with voice/ detailed document** of your running solution. **(50%)**
 - Screen Video captured file should state your last name and id, like Ali_123456.mp4 (or whatever the extension of the file is)
- OR**
- Detailed document should include screen shots of your output, have your name and id on the top of the file and save the file with your last name and id, like Ali_123456.docx (or whatever the extension of the file is)

- A word/ text file which will reflect on learning of your concepts in this workshop. (20%)
 - Should state your Full name and Id on the top of the file and save the file with your last name and id, like Ali_123456.txt
- JavaDocs must be used for proper documentation of each task. (15%)
- Submission of working code. (15%)
 - Make sure you follow the “**Code Submission Criteria**” mentioned above.
 - You should zip your whole working project to a file named after your Last Name followed by the first 3 digits of your student ID. For example, **Ali123.zip**.
- Your marks will be deducted according to what is missing from the above-mentioned submission details.
- Late submissions would result in additional 10% penalties for each day or part of it.

Remember that you are encouraged to talk to each other, to the instructor, or to anyone else about any of the assignments, but the final solution may not be copied from the assignments, but the final solution may not be copied from any