

Seneca College

Applied Arts & Technology
SCHOOL OF COMPUTER STUDIES

JAC444**Submission date:****July 19, 2021**

Workshop 7

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, Collection Framework.

Task 1:

In workshop 6 we used baby name ranking files, this workshop going to use the same files,

Part – 1.

- a. Write a program that prompts the user to enter one of the *filenames* from baby ranking and displays the names that are used for both genders in the file.
- b. Use Lists to store the names and find common names in two lists.

Here is a sample run:

```
Enter a file name for baby name ranking: babynamesranking2010.txt
68 names used for both genders
They are Charlie Emerson Morgan ...
```

Part – 2.

- a. Sort all names for boys and girls.
- b. Remove the duplicates.
- c. Display the sorted names individually

Design your own output for this part.

Task 2: (Design your own output for this you are free to use JavaFX or not)

Write a program that takes a whole number input from a user and determines whether it's prime. If the number is not prime, display its unique prime factors. Remember that a prime number's factors are only 1 and the prime number itself. Every number that's not prime has a unique prime factorization. For example, consider the number 54. The prime factors of 54 are

2, 3, 3 and 3. When the values are multiplied together, the result is 54. For the number 54, the prime factors output should be 2 and 3. Use Sets as part of your solution.

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>*

*****/

Code Submission Criteria:

Please note that you should have:

- Appropriate indentation.
- Proper file structure
- Follow java naming convention
- Document all the classes properly
- Do Not have any debug/ useless code and/ or files in the assignment
- Do not have everything in the *main method*.
- Have a separate TestClass with the main method in it.

- Check your inputs if the user is not entering garbage inputs.
- Use exceptional handling or other methods to let the user know if the inputs are incorrect.

Deliverables and Important Notes:

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

- You are supposed to submit a video/ detailed document of your running solution. **(40%)**
 - Things to be considered if you are uploading a video.
 - A reasonable length of video should be posted. 5%
 - Your video should show the running solution with different inputs. 5%
 - In a minute discuss the design of your solution. 10%
 - In a minute (max 3 to 5) discuss the important functions/ methods in your solution. 20%
 - If you are using in your solution concepts that are not discussed in the class then in a minute or two explain,
 - What is that concept?
 - Why did you use it?
 - How does it benefit your solution?
 - Things to be considered if you are uploaded the detailed document.
 - Should include **screen shots** of your output. 5%
 - Underneath each screen shot explain in 2 to 4 lines what is happening. 10%
 - In 3 to 5 lines explain the design logic of your program. 10%
 - Screen shots of important methods/ functions in your solution and discuss them underneath each screen shot (3 to 6 lines). 15%
 - If you are using in your solution concepts that are not discussed in the class then in a minute or two explain,
 - What is that concept?
 - Why did you use it?
 - How does it benefit your solution?
- A word/ text file which will reflect on learning of your concepts in this workshop. (Also include the instructions on how to run your code, if required) **(30%)**

- 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
- Submission of working code. (30%)
 - 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 any source.