

Advanced Java Labs

These labs assume that you have completed the Prequel exercise and have a **Customer** class. If not, you will need to create it before proceeding. As always, if in doubt, ask your instructor.

1. Make your Customer class sortable by 'natural order'. You can decide what that order should be. Write code to create and sort a list of 5 Customers.
2. Sort your list using some order other than the natural order. Use Lambda expressions.
3. Write a method that can filter your list based on criteria that you specify as an argument. Use the appropriate jdk8 interface to specify the filter criteria. Test your filter method using lambda expressions.
4. Write a method to return the names of customers who have a status of **Normal**. Use JDK 8 streams.
5. Change the code for Lab 4 to return a list of the lengths of the names of all Customers who have a status of Normal
6. Handling checked exceptions. Create a method called `nameLength` which checks the length of a customer name. If the name is shorter than 5 characters, the method should throw a checked Exception called `NameTooShortException` (which you will have to also create). Change the code in Lab 5 to call this method to measure the name length in your Stream pipeline.
7. Optional.
 1. Download a plain text book from the Gutenberg project
<http://www.gutenberg.org/>
 2. Write a program that computes the "concordance" for the book
 3. A concordance is a word frequency table, indicating how many times each word is used in the book.
 4. Use streams in your solution.