

JDK 8 Lambdas and Streams MOOC: Lesson 2 Homework

For lesson 2 the homework will focus on using the basic features of the Streams API.

As with the lesson 1 homework, there is a template source file that you should use to create the answers to the exercises. This is called Lesson2.java. All supporting code is already included; some of the exercises require the use of a text file which is also provided.

There are seven exercises for this week's homework:

- **Exercise 1:** Create a new list with all the strings from original list converted to lower case and print them out.
- **Exercise 2:** Modify exercise 1 so that the new list only contains strings that have an odd length.
- **Exercise 3:** Join the second, third and forth strings of the list into a single string, where each word is separated by a hyphen (-). Print the resulting string.
- **Exercise 4:** Count the number of lines in the file using the BufferedReader provided.
- **Exercise 5:** Using the BufferedReader to access the file, create a list of words with no duplicates contained in the file. Print the words. **HINT:** A regular expression, WORD_REGEX, is already defined for your use.
- **Exercise 6:** Using the BufferedReader to access the file create a list of words from the file, converted to lower-case and with duplicates removed, which is sorted by natural order. Print the contents of the list.
- **Exercise 7:** Modify exercise6 so that the words are sorted by length. Print the contents of the list.

Again, the key part of this homework is to use the new features of JDK 8 in the form of the streams API with appropriate Lambda expressions. Although parts of this you could easily do with loops that is not the goal. You should be able to complete all the exercises without resorting to a for or while loop. When you develop your Lambda expressions have a look at them and see if they can be replaced with an equivalent method reference.