

Homework 6

1. Create two **Lists**, one is **ArrayList** and the other one is **LinkedList** and fill it using 10 state names (e.g., Texas). Sort the list and print it, and then shuffle the lists at random. Please use **java.util.Collections** class to do sorting and shuffling. (1 point)
2. Use a **Map** (**HashMap** or **TreeMap**) to create a word occurrence counter, mapping **String** to **Integer**. The words are stored in a text file. You need to open the file and break up the words in that file using whitespace and newline. (1 point)
3. Create your own exception class **MyException** by extending the **Exception** class. Write a constructor for this class that takes a **String** parameter and stores it inside the object with a **String** reference. Write a method that displays the stored **String**. Create another class **MyTest**, which has a method named **bad()**. When **bad()** is called, it throws a **MyException** with a message that is the current object's **toString()**. Create a try catch clause to exercise your new exception. Print the message in catch block. (1 point)
4. Prompt the user to input a file name. Open and print the file. Of course, the user may make a mistake when inputting the file name, so it will throw an exception. Create your own resumption-like behavior using a while loop that repeats until an existing file name is correctly given. (1 point)
5. Create a class with two methods, **f()** and **g()**. In **g()**, throw an exception of a new type derived from the **Exception** class. In **f()**, call **g()**, catch its exception and, in the catch clause, throw a different exception of a second type derived from the **RuntimeException** class. Test your code in **main()**. (1 point)