**ArrayListBasics.java** Write an application to read numerical from a file into an ArrayList. There will be one number per line in the file. Then, process the ArrayList and complete the following tasks:

* Find the amount of numbers in the list.
* Find the sum of all the numbers.
* Find the average of all the numbers.
* Find the largest number.
* Find the index of the smallest number.
* Find the smallest number.
* Keep any number between 5 and 10, inclusively, in the list. Delete all other numbers.
* Find the number of numbers remaining list.
* Print all the remaining numbers in the list.

Write all necessary methods to calculate and return the desired data for each task. The list should be passed as a parameter for most of the methods. Include proper documentation for each method. There should not be any global (static) variables for this program.

***Testing/Development Strategy***: It may help to create a new data file with a small set of data to test and ensure the methods are working properly. During the testing phase, it may also help to print the list after a method or during each iteration of a loop to see how the list is modified.

Somewhere in the main method…

System.out.println("Average of the list: " + findAverage(numbers));

System.out.println("Sum of the list: " + getSum(numbers));

The method header/signature should be…

private static double getSum(List<Double> numbers)

private static double findAverage(List<Double> numbers)

**Expected Input**

Enter a file name (without .txt): **ArrayListBasicsFile**

**Expected Output**

Number of elements: 6525

Sum of the list: 3291074.1965423366

Average of the list: 504.3791872095535

Maximum value: 999.9780398236477

Index of Minimum: 2228

Minimum value: 0.027375512843708094

Number of elements remaining: 24

[6.402245717965771, 8.783315369277123, 8.042706576754878, ……]

**Extension**: Put a loop around the try/catch block. Keep prompting the user to enter a filename until an existing file is found.

Modify the program again so that the user is given three chances to enter a good filename. Once the three chances are up, display an appropriate message and terminate the program.