The task requires the implementation of four overloaded methods in Java that compute the average of arrays containing different data types: short, int, long, and double. Additionally, a test program must be created to invoke these methods, display the average values, and present the original array elements in a clear and comprehensible manner. Each array should be of a different size to validate the correctness of the methods.

To achieve the desired functionality, we will define four overloaded methods, each tailored to handle a specific data type. The methods will compute the average by summing the elements of the array and dividing by the number of elements. Following the method definitions, we will implement a test program that demonstrates their usage.

*Method Definitions*

*AverageCalculator.java*

The overloaded methods for calculating the average of arrays of different types: Each method computes the average for its respective data type. The for-each loop iterates through the array, summing the elements, and the average is calculated by dividing the total sum by the length of the array.

A screenshot of a computer program

Description automatically generated

*Test Program*

AverageTest.java

The following test program will create arrays of different sizes and invoke each of the overloaded methods. The AverageTest.java class initializes arrays of varying sizes and types. It calls the corresponding average method for each array and prints the results. The arrayToString helper methods convert the arrays into a readable string format for display.

A screen shot of a computer program

Description automatically generated

Output: The program outputs the original arrays and their respective averages, ensuring clarity and ease of understanding for the user

A screenshot of a computer

Description automatically generated