Module 10 Assignment Results Document

Program Listing:

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*\* CSD320-J318 Programming with Java (2245-DD)*

*\**

*\* Write four overloaded methods that return the average of an array with the following headers:*

*\* public static short average(short [] array)*

*\* public static int average(int [] array)*

*\* public static long average(long [] array)*

*\* public static double average(double [] array)*

*\* Write a test program that invokes each of these methods and then displays the average value returned*

*\*  along with a display of the original array elements. Ensure the display is easy to read and understandable.*

*\* Lastly, each array sent into the methods must be of different sizes to ensure the method code is correctly written.*

\*/

 import *java*.*text*.*DecimalFormat*;

*public* *class* Average {

     // *Overloaded Method for short*

*public* *static* short average(short[] array) {

         short nSum = 0;

         for (short value : array) {

             nSum += value;

         }

         nSum /= (short) array.*length*;

         return nSum;

     }

     // *Overloaded Method for int*

*public* *static* int average(int[] array) {

         int nSum = 0;

         for (int j : array) {

             nSum += j;

         }

         nSum /= array.*length*;

         return nSum;

     }

     // *Overloaded Method for long*

*public* *static* long average(long[] array) {

         long nSum = 0;

         for (long l : array) {

             nSum += l;

         }

         nSum /= array.*length*;

         return nSum;

     }

     // *Overloaded Method for double*

*public* *static* double average(double[] array) {

         double nSum = 0;

         for (double v : array) {

             nSum += v;

         }

         nSum /= array.*length*;

         return nSum;

     }

     // *Overloaded Method to display array elements for short*

*public* *static* void displayArray(short[] array) {

         DecimalFormat df = new DecimalFormat("#,###");

         for (short num : array) {

             System.*out*.print(df.format(num) + " : ");

         }

     }

     // *Overloaded Method to display array elements for int*

*public* *static* void displayArray(int[] array) {

         DecimalFormat df = new DecimalFormat("#,###");

         for (int num : array) {

             System.*out*.print(df.format(num) + " : ");

         }

     }

     // *Overloaded Method to display array elements for long*

*public* *static* void displayArray(long[] array) {

         DecimalFormat df = new DecimalFormat("#,###");

         for (long num : array) {

             System.*out*.print(df.format(num) + " : ");

         }

     }

     // *Overloaded Method to display array elements for double*

*public* *static* void displayArray(double[] array) {

         DecimalFormat df = new DecimalFormat("#,###.##");

         for (double num : array) {

             System.*out*.print(df.format(num) + " : ");

         }

     }

     // *Main Method*

*public* *static* void main(String[] args) {

        // *Define the arrays*

         short[] shortArray = {1, 5, 7, 11, 13, 17};

         int[] intArray = {35000, 425435, 423545, 9872456, 345678};

         long[] longArray = {2147483700L, 4147600647L, 3147483647L, 5147483647L, 6147483647L};

         double[] doubleArray = {66.6, 392.5, 3.14, 45535.35};

         // *Display original arrays*

         System.*out*.print("Original Short Array: ");

         displayArray(shortArray);

         System.*out*.print("\nOriginal Int Array: ");

         displayArray(intArray);

         System.*out*.print("\nOriginal Long Array: ");

         displayArray(longArray);

         System.*out*.print("\nOriginal Double Array: ");

         displayArray(doubleArray);

         System.*out*.println();

         //*Call average Method and display result*

         DecimalFormat df = new DecimalFormat("#,###.##");

         System.*out*.println("\nAverage of Short Array: " + df.format(average(shortArray)));

         System.*out*.println("\nAverage of Integer Array: " + df.format(average(intArray)));

         System.*out*.println("\nAverage of Long Array: " + df.format(average(longArray)));

         System.*out*.println("\nAverage of Double Array: " + df.format(average(doubleArray)));

     }

 }

GitHub Link:

<https://github.com/erosales48/csd/tree/master/csd-320/Module-10>

Example 1:

A screenshot of a computer

Description automatically generated