Module 9 Assignment Results Document

Program Listing:

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

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*\* Module 9 Assignment*

*\* Write a program that reads and fills an array with 20 integers.*

*\* Then using the array elements, calculate the data to find and display:*

*\* 1. The highest value entered.*

*\* 2. The loweest value entered.*

*\* 3. The average of numbers entered.*

*\* 4. The sum of the numbers entered.*

\*/

import *java*.*util*.*\**;

*public* *class* Module9{

    // *Method to find the highest value in the list.*

*public* *static* int topVal(List<Integer> list) {

        int max = Integer.*MIN\_VALUE*;

        for (Integer num : list) {

            if (num > max) {

                max = num;

            }

        }

        return max;

    }

    // *Method to find the lowest value in the list.*

*public* *static* int minVal(List<Integer> list) {

        int min = Integer.*MAX\_VALUE*;

        for (Integer num : list) {

            if (num < min) {

                min = num;

            }

        }

        return min;

    }

    // *Method to add all the vlaues on the list.*

*public* *static* int summed(List<Integer> list) {

        int sum = 0;

        for (Integer num : list) {

            sum += num;

        }

        return sum;

    }

    // *Main Method*

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

        List <Integer>  list = new ArrayList <>();

        Random random = new Random();

        // *Could add a Method to ask for user to enter 20 integers, but this is cleaner.*

        // *Could also just ask user to determine the range between 1 and <2 - 2147483647>.*

        for(int i = 0; i < 20; ++i){

            list.add(random.nextInt(200) + 1);

        }

        // *Print out the whole list so it can be compared to answers.*

        System.*out*.println("List of random integers:");

        System.*out*.println(list);

        // *Call method to get highest value and print it out.*

        int max = topVal(list);

        System.*out*.println("\nHighest value in the List = " + max);

        // *Call method to get lowest value and print it out.*

        int min = minVal(list);

        System.*out*.println("\nLowest value in the list = " + min);

        // *Call method to get sum of all values and print it out.*

        int sum = summed(list);

        System.*out*.println("\nSum of all the numbers in the list = " + sum);

        // *Call method to get sum of all values then divide it by the number of values to get average and print it out.*

        int avg = (summed(list) / list.size());

        System.*out*.println("\nAverage of all numbers in the list = " + avg + "\n");

    }

}

GitHub link:

<https://github.com/erosales48/csd/tree/master/csd-320/Module-9>

Example 1:

A screenshot of a computer

Description automatically generated