```java
import java.util.Arrays;
import java.util.OptionalDouble;

public class week3 {

    public static void main String [] args) {
        int [] age = {3, 9, 23, 23 };

        //first value of array minus last value of array
        System.out.println(age[0]-(age[age.length-1]));


        //average sum of array
        int sum = 0;
        int length = age.length;
        int average = sum/length;
        for (int i = 0; i < age.length; i++) {
            sum += age[i];
        }
            average = sum /length;
            System.out.println (average);
            {




        //string array of names
        String [] names = {"Sam", "Tommy", "Tim", "Sally", "Buck", "Bob"};


        //counts all of the characters in the string[]
        sum=0;
        for (int i = 0; i < names.length; i++) {
            sum += names[i].length();
        }
        System.out.println ("Characters in all the names togeather "+sum);


        //average the characters in each name length
            average = sum / names.length;
            System.out.println ("The average characters in the string " +average);


        //concatenate the names together
            String namef = "";
            for (int i = 0; i < names.length; i++) {
                namef += names[i] + ", ";
                System.out.println (namef);
            }


        //access the last element of an array
            System.out.println ("Last element "+names[names.length - 1]);

        //access the first element of an array
            System.out.println("First element "+names[0 ]);

        //new array of nameLengths = names array
            int [] nameLengths = new int[names.length];
            for (int i = 0; i < names.length; i++) {
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60              nameLengths[i] = names[i].length();
61              }
62          //sum of all of the elements in the array
63              sum = 0;
64              for (int i = 0; i < nameLengths.length; i++) {
65                  sum += nameLengths[i];
66              }
67              System.out.println ("Sum of elements in the nameLengths array "
68                      + sum);
69              }
70              // print out the method below dupWord at n times
71              int n = 7;
72              System.out.println(dupWord("Hello " , n));
73
74              //print out string fullName method
75              String firstName = "Terra";
76              String lastName = "Ray";
77              String wholeName = fullName(firstName, lastName);
78              System.out.println (wholeName);
79
80
81
82
83
84              int [] ages = {3, 9, 23, 123};
85              System.out.println("100 greater " + practice(ages));
86
87              double [] dates = {1.2, 2.7, 127.2};
88              System.out.println ("Sum of double dates: "+ practice2(dates));
89
90              double [] dates1 = {1.4, 3.7, 28.2};
91              System.out.println ("is second array greater:  " + isFirstGreater (dates,
    dates1));
92
93      }
94
95      //method to repeat returned word (string), n (int) number of times
96      public static String dupWord(String word, int n) {
97          String dupWord = "";
98          for (int i = 0; i <= n; i++) {
99              dupWord += word;
100         }
101         return "dupWord method: " + dupWord;
102
103     // method for two strings
104     }
105     public static String fullName String x, String y) {
106         return x +  " " + y;
107
108     }
109
110     //Write a method that takes an array of int and returns true if
111     //the sum of all the ints in the array is grater than 100.
112     public static boolean practice int [] arr) {
113         int sum = 0;
114         for (int i = 0; i < arr.length; i++) {
115             sum += arr[i];
116         }
117         return sum > 100;
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118     }
119
120
121     //Method double array and returns the sum of all the elements in the array.
122     public static double practice2  double [] arr) {
123         double sum = 0;
124         double average = 0;
125         for (int i = 0; i< arr.length; i++) {
126             sum += arr [i];
127             average = sum / arr.length;
128         }
129         return average;
130     }
131
132     //Method takes to arrays of double and returns true if the average of elements
133     //in the first array is greater than the average of the elements in the second.
134     public static double practice3  double [] arr) {
135         double sum = 0;
136         double average = 0;
137         for (int i = 0; i<arr.length; i++) {
138             sum+=arr[i];
139             average = sum / arr.length;
140         }
141         return average;
142
143     }
144
145     public static boolean isFirstGreater (double [] firstArr, double [] secondArr) {
146         return practice2(firstArr) < practice3(secondArr);
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185
186     //end of main
187
188 //end of class
189
```