```java
package src;

import java.util.Scanner;

public class W3HomeWork {

public static void main(String[] args) {

//              Coding Steps — Arrays and Methods

//              1. Create an array of int called ages that contains the following values: 3, 9, 23,
64, 2, 8, 28, 93.

int[] ages = {3, 9, 23, 64, 2, 8, 28, 93, 100};


//              a. Programmatically subtract the value of the first element in the array from the
value in the last element of

//              the array (i.e. do not use ages[7] in your code). Print the result to the console.

int subtract = ages[ages.length-1]-ages[0];

System.out.println(subtract);


//              b. Add a new age to your array and repeat the step above to ensure it is dynamic
(works for arrays of different

//              lengths).

//done.


//              c. Use a loop to iterate through the array and calculate the average age. Print the
result to the console.

double sum =0;
```

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for (int i = 0 ; i < ages.length; i++) {

sum = ages[i] + sum;

}

double ave = sum / ages.length;

System.out.println(ave);


//              2. Create an array of String called names that contains the following values: "Sam",
"Tommy", "Tim", "Sally",

//              "Buck", "Bob".

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


//              a. Use a loop to iterate through the array and calculate the average number of
letters per name. Print the result

//              to the console.

double sumOfLetters = 0;

for (String name : names) {

sumOfLetters += name.length();

}

double averageOfLetters = sumOfLetters / names.length;


System.out.println(averageOfLetters);


//              b. Use a loop to iterate through the array again and concatenate all the names
together, separated by spaces,

//              and print the result to the console.


String together = "";
```

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for (String name : names) {

together += name + " ";

}

System.out.println(together);



//                          3. How do you access the last element of any array?

// using method ".length" eg. arry[arry.length-1];

//                          4. How do you access the first element of any array?

// can called by "array[0]"



//                  5. Create a new array of int called nameLengths. Write a loop to iterate over the
previously created names array and

//                  add the length of each name to the nameLengths array.

int[] nameLengths = new int[names.length];

for (int j = 0; j < names.length; j++) {

nameLengths [j] = names[j].length();

}

//                  6. Write a loop to iterate over the nameLengths array and calculate the sum of all
the elements in the array. Print the

//                  result to the console.



int sumsum = 0;

for (int length : nameLengths) {

sumsum += length;

}

System.out.println(sumsum);
```

//   7. Write a method that takes a String, word, and an int, n, as arguments and returns the word concatenated to itself n

//   number of times. (i.e. if I pass in "Hello" and 3, I expect the method to return "HelloHelloHello").

System.out.println(repeatWord("Yeonga", 13));

//   8. Write a method that takes two Strings, firstName and lastName, and returns a full name (the full name should be the

//   first and the last name as a String separated by a space).

System.out.println(fullName("Yeonga", "Oh"));

//   9. Write a method that takes an array of int and returns true if the sum of all the int in the array is greater than 100.

System.out.println(greater(ages));

//   10. Write a method that takes an array of double and returns the average of all the elements in the array.

double[] doubles = {45.7, 30.2, 67.3};

System.out.println(calculateAverage(doubles));

//   11. Write a method that takes two arrays of double and returns true if the average of the elements in the first array is

//   greater than the average of the elements in the second array

double[] doubles1 = {45.7, 30.2, 67.3};

double[] doubles2 = {50.1, 55.2, 80.3};

System.out.println(comparingAverage(doubles1, doubles2));

```
//              12. Write a method called willBuyDrink that takes a boolean isHotOutside, and a
double moneyInPocket, and returns

//              true if it is hot outside and if moneyInPocket is greater than 10.50.

System.out.println(willBuyDrink(true, 13.00));



//              13. Create a method of your own that solves a problem. In comments, write what
the method does and why you created

//              it.




}



public static String repeatWord(String userWord, int numTimes) {


        String result = "";
    for (int i = 1; i <= numTimes; i++) {

        result = result + userWord ;

        }
return result;

}



public static String fullName(String firstName, String lastName) {


        String full = firstName + " " + lastName;



return full;
```

```java
    }

    public static boolean greater (int[] array) {

        int sumsumsum = 0;

        for (int arr : array) {

            sumsumsum += arr;

        }

        return sumsumsum > 100;

    }

    public static double calculateAverage(double[] array) {

        double sum = 0;

        for (double number : array) {

            sum += number;

        }

        return sum / array.length;

    }

    public static boolean comparingAverage(double[] array, double[] array1) {

        double sum = 0;

        for (double number : array) {

            sum += number;

        }

        double ave = sum / array.length;

        double sum1 = 0;
```

```java
for (double number : array1) {

sum1 += number;

}

double ave1 = sum1 / array1.length;


return ave > ave1;

}

public static boolean willBuyDrink (boolean isHotOutside, double moneyInPocket) {

if (isHotOutside == true &&        moneyInPocket > 10.50) {

return true;

} else {

return false;

}

}




}
```