

```

package week04;

import java.util.Arrays;
import java.util.Scanner;

//import java.util.ArrayList;

public class Week04CodingAssignment {

    public static void main(String[] args) {
        //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};
        System.out.println("Array of numbers :"+Arrays.toString(ages));

        //Programmatically subtract the value of the first element in the array from the value in the last element
        ages[ages.length-1] = ages[ages.length-1]-ages[0];

        System.out.println("New array of numbers :"+Arrays.toString(ages));

        //Add a new age to your array and repeat the step above to ensure it is dynamic (works for arrays of differ
        int[] ages2 = {3, 9, 23, 64, 2, 8, 28, 93, 45};
        ages2[ages2.length-1] = ages2[ages2.length-1]-ages2[0];
        System.out.println("Newest array of numbers :"+Arrays.toString(ages2));

        //Use a loop to iterate through the array and calculate the average age. Print the result to the console.
        float sum=0;
        for(int i=0; i<ages2.length; i++) {
            sum+= ages2[i];
        }
        System.out.println("The average is: "+sum/ages2.length);

        //Create an array of String called names that contains the following values: "Sam", "Tommy", "Tim", "Sally"
        String[] someArray = {"Sam", "Tommy", "Tim", "Sally", "Buck", "Bob"};

        //Use a loop to iterate through the array and calculate the average number of letters per name. Print the r
        float stringLength = 0;
        for(int i=0; i<someArray.length; i++) {
            stringLength+=someArray[i].length();
        }
        System.out.println("The average number of letters per name is: "+stringLength/someArray.length);

        //Use a loop to iterate through the array again and concatenate all the names together, separated by spaces
        String concatenatedNames="";
        for(int i=0; i<someArray.length; i++) {
            concatenatedNames+=someArray[i]+ " ";
        }
        System.out.println("The concatenated result is: "+concatenatedNames);

        //How do you access the last element of any array?
        //You access the last element of the array by calling on the last index ie:
        //array[array.length-1];

        //How do you access the first element of any array?
        //You access the first element of the array by calling the first index ie:
        //array[0];

        //Create a new array of int called nameLengths. Write a loop to iterate over the previously created names a
        int[] nameLengths = new int[someArray.length];
        for(int i=0; i< someArray.length; i++) {
            nameLengths[i] = someArray[i].length();
        }

        System.out.println("Lengths of each name on the array are :"+Arrays.toString(nameLengths));

        //Write a loop to iterate over the nameLengths array and calculate the sum of all the elements in the array
        float nameSum=0;
        for(int i=0; i< nameLengths.length; i++) {
            nameSum += nameLengths[i];
        }
        System.out.println("The sum of all name lengths is :"+nameSum);

        //Write a method that takes a String, word, and an int, n, as arguments and returns the word concatenated t
        String word = "Hola";
        int n = 5;
    }
}

```

```

        System.out.println(concatenatedTimes(word, n));
//Write a method that takes two Strings, firstName and lastName, and returns a full name (the full name should be)
String firstName = "Michael";
String lastName = "Jordan";
System.out.println("The full name is : " + fullName(firstName, lastName));

//Write a method that takes an array of int and returns true if the sum of all the ints in the array is greater than 100
int[] nums = {5,6,7,8,9,12,2,6,7};
System.out.println("The sum of the array is greater than 100 :"+ greaterThan100(nums));

//Write a method that takes an array of double and returns the average of all the elements in the array.
double[] arrayOfDoubles = {5.02,6,7,8,33,9.11,12,2,6,7.55};
System.out.println("The average of the array is :"+ averageOfDoubles(arrayOfDoubles));

//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[] arrayOfDoubles2 = {10.02,3,1,9,22,2.11,0,2,3,4.55};
System.out.println("The average of the first array is greater than the average of the second array :"+ averageOfOneGreaterThanTwo(arrayOfDoubles,arrayOfDoubles2));

//Write a method called willBuyDrink that takes a boolean isHotOutside, and a double moneyInPocket, and returns true if you can buy a drink
double moneyInPocket = 13.55;
boolean isHotOutside = true;
System.out.println("Today is hot and i will buy a drink: "+ willBuyDrink(isHotOutside, moneyInPocket));

//Create a method of your own that solves a problem. In comments, write what the method does and why you created it
Scanner sc = new Scanner(System.in);
System.out.println("Hello, lets check your BMI");
System.out.print("What is your current weight in pounds :");
double weight = sc.nextDouble();
System.out.print("What is your current height in inches :");
double height = sc.nextDouble();

System.out.println(looseWeight(weight, height));

}
//Write a method that takes a String, word, and an int, n, as arguments and returns the word concatenated to it n times
public static String concatenatedTimes(String word, int n) {
    String concatenatedWord = "";
    for(int i=0; i<n; i++) {
        concatenatedWord+= word;
    }
    return concatenatedWord;
}

//Write a method that takes two Strings, firstName and lastName, and returns a full name (the full name should be)
public static String fullName(String firstName, String lastName){
    return (firstName+ " "+lastName);
}

//Write a method that takes an array of int and returns true if the sum of all the ints in the array is greater than 100
public static boolean greaterThan100(int[] ints) {
    int sum = 0;
    for(int num: ints) {
        sum+= num;
    }
    return sum>100;
}

//Write a method that takes an array of double and returns the average of all the elements in the array.
public static double averageOfDoubles(double[] arrayOfDoubles) {
    double sum = 0;
    for(double num: arrayOfDoubles) {
        sum+= num;
    }
    return (sum/arrayOfDoubles.length);
}

//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
public static boolean averageOfOneGreaterThanTwo(double[] arrayOfDoubles,double[] arrayOfDoubles2) {
    double sum1 = 0;
    double sum2 = 0;
    for(double num: arrayOfDoubles) {
        sum1+=num;
    }
    for(double num: arrayOfDoubles2) {
        sum2+=num;
    }
    return (sum1/arrayOfDoubles.length > sum2/arrayOfDoubles2.length);
}

```

```

    }
    return((sum1/arrayOfDoubles.length)>(sum2/arrayOfDoubles2.length));
}

//Write a method called willBuyDrink that takes a boolean isHotOutside, and a double moneyInPocket, and returns
public static boolean willBuyDrink(boolean isHotOutside, double moneyInPocket) {
    if(isHotOutside == true && moneyInPocket>10.5) {
        return true;
    }
    else {
        return false;
    }
}

//Create a method of your own that solves a problem. In comments, write what the method does and why you create
public static String looseWeight(double weight, double height) {
    double bmi = (703*(weight/(height*height)));
    double goodWeightLow = (18.5/703)*(height*height);
    double goodWeightHigh = (24.9/703)*(height*height);

    if (bmi< 18.5) {
        return("You dont need to loose weight you need to gain weight, your BMI is: "+(int)bmi+". It is recomer
    }
    else if(bmi>=18.5 && bmi<24.9) {
        return ("You dont need to loose weight, you have a healthy weight and your BMI is: "+ bmi);
    }
    else if(bmi>=24.9 && bmi<29.9){
        return("You need to loose weight. Your BMI is :"+(int)bmi+". It is recommended that you loose about "+(
    }
    else {
        return("You need to loose weight. Your BMI is :"+(int)bmi+". It is cruicial that you loose about "+(int
    }
}

}

/*
 * GitHub Repository URL: https://github.com/fmd5045/Week04CodingAssignment
 * Public video link: https://youtu.be/E7ZhWt9aoHY
 */

```