Intro to Java Week 3 Coding Assignment

Points possible: 70

Category	Criteria	% of Grade
Functionality	Does the code work?	25
Organization	Is the code clean and organized? Proper use of white space, syntax, and consistency are utilized. Names and comments are concise and clear.	25
Creativity	Student solved the problems presented in the assignment using creativity and out of the box thinking.	25
Completeness	All requirements of the assignment are complete.	25

Instructions: In Eclipse, or an IDE of your choice, write the code that accomplishes the objectives listed below. Ensure that the code compiles and runs as directed. Take screenshots of the code and of the running program (make sure to get screenshots of all required functionality) and paste them in this document where instructed below. Create a new repository on GitHub for this week's assignments and push this document, with your Java project code, to the repository. Add the URL for this week's repository to this document where instructed and submit this document to your instructor when complete.

Coding Steps:

1. Create an array of int called **ages** that contains the following values: 3, 9, 23, 64, 2, 8, 28, 93.
    1. ~~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.~~
    2. ~~Add a new age to your array and repeat the step above to ensure it is dynamic (works for arrays of different lengths).~~
    3. ~~Use a loop to iterate through the array and calculate the average age. Print the result to the console.~~
2. Create an array of String called names that contains the following values: "Sam", "Tommy", "Tim", "Sally", "Buck", "Bob".
    1. ~~Use a loop to iterate through the array and calculate the average number of letters per name. Print the result to the console.~~
    2. ~~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.~~
3. ~~How do you access the last element of any array?~~
4. ~~How do you access the first element of any array?~~

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.~~

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.~~

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 would expect the method to return "HelloHelloHello").f~~ I could not get this answer.

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).~~

9. ~~**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.~~ I definitely do not know how to complete this one.

10. ~~**Write a method** that takes an array of double and returns the average of all the elements in the array.~~ I was unable to figure out this one.

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. I am very lost.

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. Did not attempt.

13. Create a method of your own that solves a problem. In comments, write what the method does and why you created it. Did not attempt

Screenshots

of

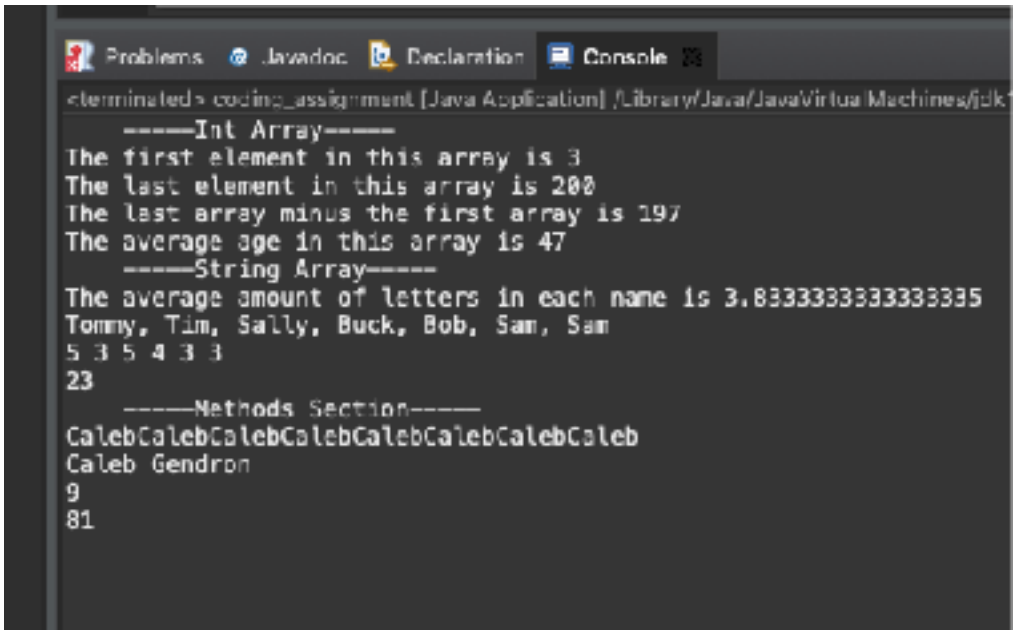
Code:

```
public class coding_assignment {

    public static void main(String[] args) {

    System.out.println("    ----Int Array----    ");
        int[] ages = new int[9];
            ages[0] = 4;
            ages[1] = 9;
            ages[2] = 23;
            ages[3] = 64;
            ages[4] = 2;
            ages[5] = 8;
            ages[6] = 28;
            ages[7] = 94;
            ages[8] = 200;


    System.out.println("The first element in this array is " + ages[0]);
    System.out.println("The last element in this array is " + ages[ages.length - 1]);

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

    System.out.println("The last array minus the first array is " + subtractAges);

        int sumOfAges = 0;

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

            sumOfAges += ages[i];

    }


    System.out.println("The average age in this array is " + (sumOfAges/ages.length));

    System.out.println("    ----String Array----    ");

        String[] names = new String[6];

        names[0] = "Tonny";
        names[1] = "Tim";
        names[2] = "Sally";
        names[3] = "Buck";
        names[4] = "Bob";
        names[5] = "Sam";

        double letterTotal = 0;

        for(int i = 0; i < names.length; i++) {
            letterTotal += names[i].length();
        }

    System.out.println("The average amount of letters in each name is " + (letterTotal/6));

    System.out.println(names[0].concat(", " + names[1].concat(", " + names [2].concat(", " +



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

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

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

        for (int i = 0; i < nameLengths.length; i++) {
            nameLengths[i] = names[i].length();
            System.out.print(nameLengths[i] + " ");
        }
    System.out.println(" ");

        int sumOfLengths = 0;


        for (int i = 0; i < nameLengths.length; i++) {
            sumOfLengths += nameLengths[i];

        }

    System.out.println(sumOfLengths);

    System.out.println("    -----Methods Section-----    ");

    //public static void repeatedWord (Word and x amount of times)

    String firstName = "Caleb";

    int repeatWord = 3;
    String repeatedWord = repeatThisWord (firstName, repeatWord);
    System.out.println(repeatedWord);


    String lastName = "Gendron";

    String fullName = createFullName(firstName, lastName);
    System.out.println(fullName);

    System.out.println(ages.length);

    int someNumber = 3;
    int anotherNumber = 4;
    int exponents = toThePowerOf(someNumber, anotherNumber);

    System.out.println(exponents);

    }
    public static String repeatThisWord(String word, int number) {
        for (int i=0; i<number; i++) {
        word+=word;
        }
        return word;
    }

    public static int toThePowerOf (int x, int y) {
        int num =1;
        for (int i = 0; i < y; i++) {
            num *= x;
        }
        return num;
    }

    public static boolean isOverOneHundred(Object[] objects) {
        int sumOfObjects = 0;

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

```
95
96      int someNumber = 3;
97      int anotherNumber = 4;
98      int exponents = toThePowerOf(someNumber, anotherNumber);
99
100     System.out.println(exponents);
101
102     }
103     public static String repeatThisWord(String word, int number) {
104         for (int i=0; i<number; i++) {
105         word+=word;
106         }
107         return word;
108     }
109
110     public static int toThePowerOf (int x, int y) {
111         int num =1;
112         for (int i = 0; i < y; i++) {
113             num *= x;
114         }
115         return num;
116     }
117
118     public static boolean isOverOneHundred(Object[] objects) {
119         int sumOfObjects = 0;
120
121         for(int i = 0; i < objects.length; i++) {
122
123         sumOfObjects += objects[i];
124
125     }
126         if (sumOfObjects > 100) {
127             return true;
128         }else {
129
130         return false;
131     }
132     }
133
134     public static String createFullName (String x, String y) {
135             return x + " " + y;
136     }
137
138 //  public static double (object[]) {
139 //      double a = 0
140 //      if (i = 0; i < object[].length; i++) {
141 //          a = object[i];
142 //      }
143 //
144 //      return a / object[].length;
145     }
146
147
148
```

Screenshots of Running Application:



URL to GitHub Repository: https://github.com/cdgendron/WeekThree.git