TASK FOR VOLUNTEERS 2

Akademia Finansów i Biznesu Vistula
Studia globalnych możliwości

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TASK 1

Please write a function that will take an **int n** value as a parameter but will return a **String** of **length n**, which will contain the characters: "+" and "-", starting with a "+" character.

For example, for given **n=5**, your function should return "+-+-+", and for given **n=8** it should return "+-+-+-+-".

TASK 2

The program below calculates the sum of the elements of the array passed to the method. Unfortunately, the program does not work properly in some cases, find the bug(s) and modify the code so that the program works properly.

Note that for the example test case the program works fine:

```java
public class BugInCode {
    public static void main(String[] args) {
        System.out.println("The sum of the numbers in the array is: "
                + calcSumArray(new int[]{0, 1, 2, 3, 4}));
    }
    public static int calcSumArray(int[] arr){
        int result = 0;
        for (int i=1; i < arr.length; i++){
            result += arr[i];
        }
        return result;
    }
}
```

```
Run:    BugInCode ×

    C:\Users\biele\.jdks\openjdk-18.0.2\bin\java.exe "-javaagent:C:\Program
    The sum of the numbers in the array is: 10
```

TASK 3

Write a program that, for a given **int n** (1 ≤ n ≤ 100), will return an array containing **n** non-repeating integers, the sum of which will be 0. The program can return any such array.

For example, for a given **int n = 4**, the program could return [1,0,-3,2], and for an int **n = 3** one possible response is [-1, 0.1] – but there are many more correct answers.

TASK 4

Two non-negative integers are called siblings if they can be obtained from each other by rearranging the digits of their decimal representations. For example, 123 and 213 are siblings, 535 and 355 are also siblings.

A set consisting of a non-negative integer n and all of its siblings is called the family of n. For example, the family of 553 comprises three numbers: 355, 535, and 553.

Write program that, for given a non-negative integer n, returns the largest numer in the family of n.

For example, given n=213 the function should return 321. Given n = 553 the function should return 553.
Assume that, n is an integer within the range: 0 ≤ n ≤ 10 000

TASK 5

Please complete an implementation of a method repFirstChar, that should return a string describing first character of the given string.

So for: an uppercase letter „upper", for lowercase letter „lower", for digit „digit" and for other characters „other". You can assume the characters are ASCII.

```java
public class FirstCharCheck {
    public static void main(String[] args) {
        System.out.println(repFirstChar( s: "test"));
    }

    public static String repFirstChar(String s){
        char c = s.charAt(0);
        if(...){ // please fix condition
            return "upper";
        } else if(...){ // please fix condition
            return "lower";
        } else if (...){ // please fix condition
            return "digit";
        } else {
            return "other";
        }
    }
}
```