Write your name only on the last page where indicated!

CS 101 - Algorithms & Programming I

Fall 2021 - Section 1 Quiz 1

October 26, 2021

1. Sum Divisors

Write a main method that takes, as input from the user, a set of positive integer values, terminated by an arbitrary negative integer. The program should display the length and the sum of the longest sequence of ascending (increasing) values in the list. Assume no invalid input is entered.

Sample run:

```
Enter a list of positive integer values: 10 11 12 8 9 10 11 12 -5
Longest sequence of ascending values: 5
Sum of longest sequence: 50
```

```
public static void main(String[] args) {
        Scanner input = new Scanner( System.in );
        int longSum = 0, sum = 0, val, count = 0, longCount = 0, prev = -1;
        System.out.print( "Enter a list of positive integer values: " );

        val = input.nextInt();

        while (val > 0) {
            if ( val > prev ){
                count = count + 1;
                sum = sum + val;
            }
            else {
                if (count > longCount ) {
                    longCount = count;
                    longSum = sum;
                }
                count = 1;
                sum = val;
            }
            prev = val;
            val = input.nextInt();
        }

        if (count > longCount ) {
            longCount = count;
            longSum = sum;
        }
        System.out.println( "Longest ascending sequence: " + longCount );
        System.out.println( "Sum of longest sequence: " + longSum );
}
```

2. Longest End

Write a main method that takes a string and a substring as input from the user and removes the substring from the beginning and end of the given string. You may assume that all inputs are valid and the input substring indeed appears at the beginning and end of the input string.

Sample runs:

Input a string: **abXYab** Input a substring: **ab** Resulting string: **XY**	Input a string: **aabaab** Input a substring: **aab** Resulting string:	Input a string: **bbabb** Input a substring: **b** Resulting string: **bab**

```
public static void main(String[] args) {
    String str, subStr;
    int strLen, subStrLen;

    Scanner input = new Scanner( System.in );
    System.out.print( "Input a string: " );
    str = input.next();
    strLen = str.length();
    System.out.print( "Input a substring: " );
    subStr = input.next();
    subStrLen = subStr.length();

    System.out.println( "Resulting string: " +
        str.substring( 0 + subStrLen, strLen - subStrLen ));
}
```

Name: _____ ID: _____ Signature: _____