

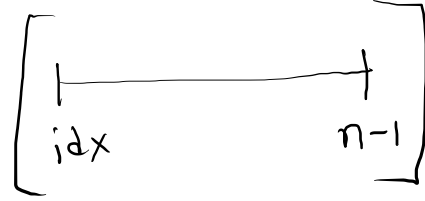
sub-string.

s → a b c d

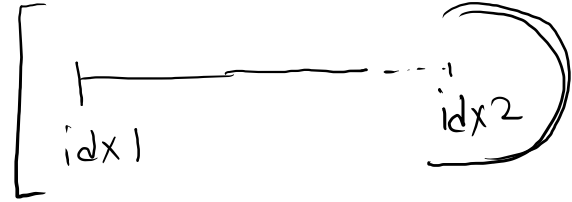
abc ✓

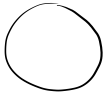
acd ✗


substring (idx)



substring (idx1, idx2)



ch = '7' →  ch - '0'

String s = "764" 

ch = '7' - '0' = 7

s = "7"

int val = Integer.parseInt ( s );

```
8 *****
9 public class Main
10 {
11     public static void main(String[] args) {
12         String s = "764";
13         int val = Integer.parseInt(s); //764
14
15         //774
16
17         System.out.println(val + 10);
18     }
19 }
20 |
```

# Sum of All Substrings



Take a **String str** as input and print the **sum** of all **substrings** of a string representing a **number**.

Eg: str="1234"

Sum = 1 + 2 + 3 + 4 + 12 + 23 + 34 + 123 + 234 + 1234 = 1670

8 → "1234"

Handwritten list of substrings of "1234":  
"1"  
"12"  
123  
1234  
2  
23  
234  
3  
34  
4

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         Scanner scn = new Scanner(System.in);
8         String s = scn.next();
9         int ans = 0;
10        for(int i = 0; i < s.length(); i++){
11            for(int j = i; j < s.length(); j++){
12                ans += Integer.parseInt(s.substring(i, j+1));
13            }
14        }
15        System.out.println(ans);
16    }
17 }
```

# Desired String

Take a **string** as input. Print the **count** of all the substrings that start with '**A**' and end with '**A**'. Also print the length of the longest such substring in the **second line**. In the **third line**, print that longest substring.

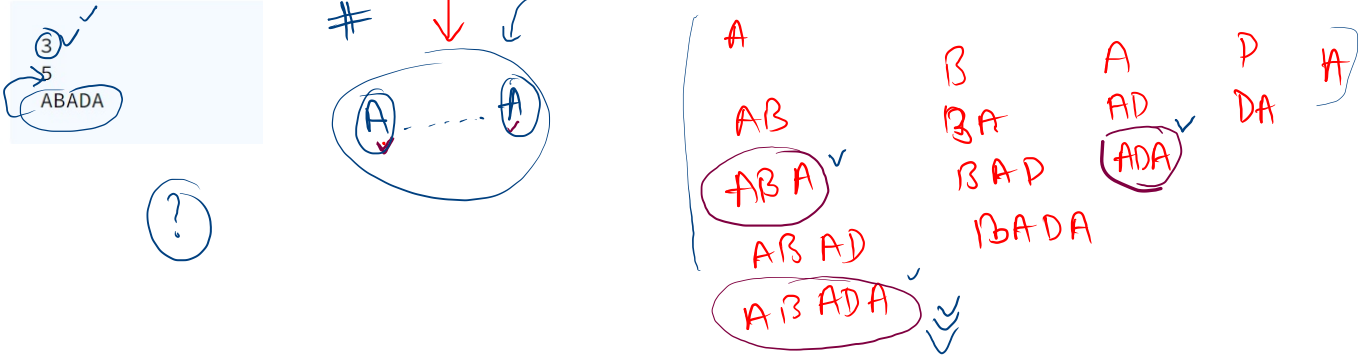
If no such substring exists, print -1.

## Sample Input 0

ABADA

8 → " A B A D A "  
0 1 2 3 4

## Sample Output 0



S → "BADA"

count = 0

longest = "ADA"



↓  
BADA

A  
0  
n-1

```
5 public static void main(String[] args) {
6     Scanner scn = new Scanner(System.in);
7     String s = scn.next();
8     int count = 0; //A....A
9     String longest = "";
10    for(int i = 0; i < s.length(); i++){
11        for(int j = i; j < s.length(); j++){
12            String ss = s.substring(i, j+1);
13            if(ss.length() > 1 && ss.charAt(0) == 'A' && ss.charAt(ss.length()-1) == 'A'){
14                count++;
15
16                if(ss.length() > longest.length()){
17                    longest = ss;
18                }
19            }
20        }
21    }
22    if(count == 0){
23        System.out.println(-1);
24    }else{
25        System.out.println(count);
26        System.out.println(longest.length());
27        System.out.println(longest);
28    }
29 }
30
```

# Power of a String

Take a **String** `str` as input and calculate the **Power** of the string.

Power of a string is defined as the **maximum length** of **substring** that contains only one **unique** character.

A **substring** is a continuous sequence of characters within a string.

**Note:** All characters in the string are in **lowercase**.

Sample Input 0

```
abbccddddddeeeeffgghheecccc
```

a b b c c c d d d d e e e e f f g g h h e e c c c c  
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

Sample Output 0

```
5
```

count = 1 / 2 3

ans = 3 / 4

a a a b b b b c c d e e  
0 1 2 3 4 5 6 7 8 9 10 11 12  
u

if (  $s[i] == s[i-1]$  )

{ count ++ , i++

}

else {

ans = max ( count , ans )  
count = 1  
i++

}

$m = 4$

$s \rightarrow$  "aaaa"  
0 1 2 3  
i

count = ~~1~~ ~~2~~ ~~3~~ 4

1 < 4

2 < 4

3 < 4

4 < 4 ✗

bb (aaaaa)

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         Scanner scn = new Scanner(System.in);
8         String s = scn.next();
9         int count = 1;
10        int ans = 0;
11        int idx = 1;
12        while(idx < s.length()){
13            if(s.charAt(idx) == s.charAt(idx-1)){
14                count++;
15            }else{
16                ans = Math.max(count, ans);
17                count = 1;
18            }
19            idx++;
20        }
21        System.out.println(ans);
22    }
23 }
```

Language: Java 8

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         Scanner scn = new Scanner(System.in);
8         String s = scn.next();
9         int count = 1;
10        int ans = 0;
11        int idx = 1;
12        while(idx < s.length()){
13            if(s.charAt(idx) == s.charAt(idx-1)){
14                count++;
15            }else{
16                ans = Math.max(count, ans);
17                count = 1;
18            }
19            idx++;
20        }
21        # ans = Math.max(count, ans);
22        System.out.println(ans);
23    }
24 }
```



# Merge String Alternatively

s → GEEK  
0 1 2 3  
t → STER  
0 1 2 4

Sample Input 0

GEEK  
STER

Sample Output 0

GSETEEKR

u → "GSETEEKR"

s → "GAME"  
0 1 2 3  
t → "PLAN"

ans = G P A L M A E N

i = 0      0 < 4  
✓      1 < 4  
✗      2 < 4  
3/      3 < 4  
4      4 < 4

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
7         Scanner scn = new Scanner(System.in);
8         String s = scn.next();
9         String t = scn.next();
10
11         String ans = "";
12         for(int i = 0; i < s.length(); i++){
13             ans += s.charAt(i);
14             ans += t.charAt(i);
15         }
16         System.out.println(ans);
17     }
18 }
```