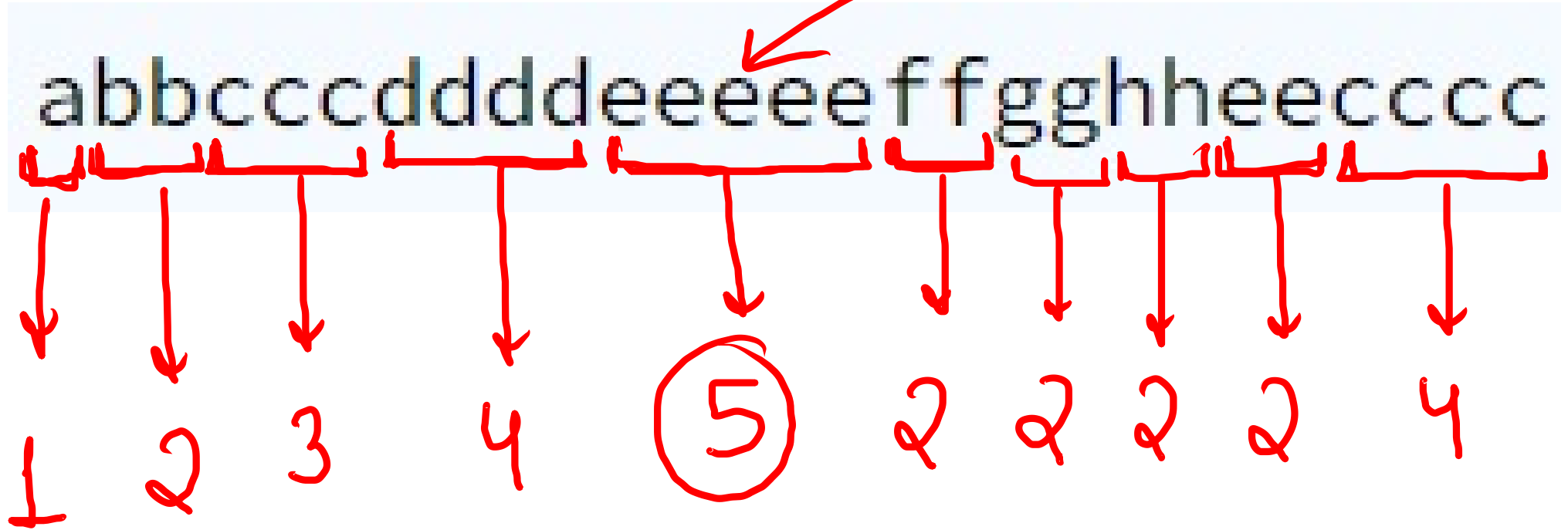


Power of a String

str



2 pointers

aaaaabbbb cccc
↑ ↑
i j

i = 0; count = 1
j = i + 1; ans = 0
if str of a == str of b
 count ++; j ++;

count = ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~
ans = ~~0~~ 5

i = j
j = i + 1;
count = 1

```

public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    String str = scn.nextLine();

    int ans = powerOfString(str);
    System.out.println(ans);
}

```

```

public static int powerOfString(String str) {
    int i = 0;
    int count = 1;
    int ans = 0;

    while (i < str.length()) {
        int j = i + 1;
        while (j < str.length()) {
            if (str.charAt(i) != str.charAt(j)) {
                ans = Math.max(ans, count);
                count = 1;
                break;
            }
            count++;
            j++;
        }
        i = j;
    }
    ans = Math.max(ans, count);
    return ans;
}

```

abbccdddeeeefffgghheeeccccc

 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

Count = ~~1~~ ~~1~~ ~~2~~ ~~1~~ ~~2~~ ~~3~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~1~~ ~~2~~ ~~1~~ ~~2~~ ~~1~~

 ans = ~~0~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~2~~ ~~1~~ ~~2~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~

abcdefg :- accessing all

 elements atmost

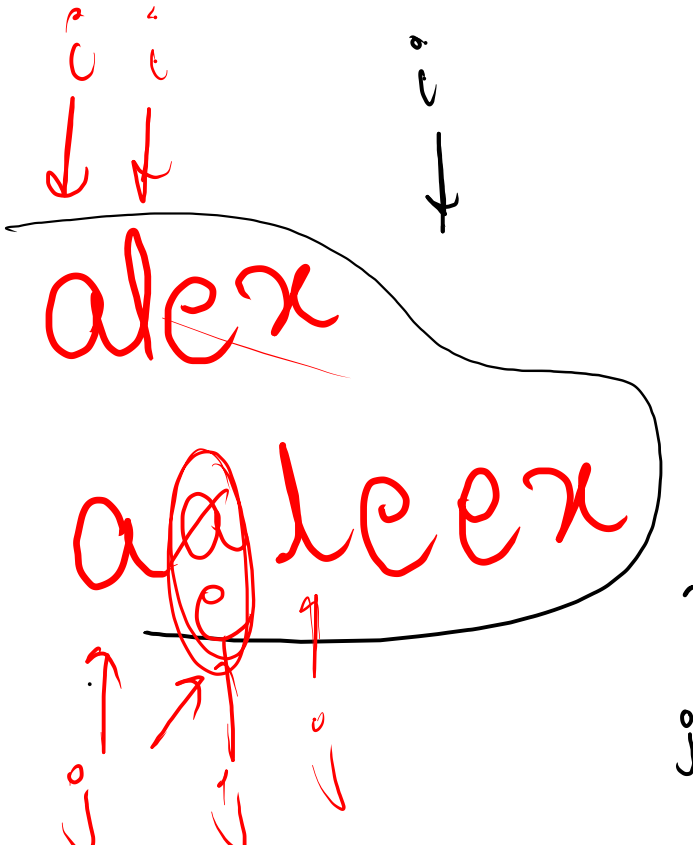
 2 times

T.C = $O(2 \times n) \cong \underline{O(n)}$

Long Pressed Name

(need to be modified)

str = alex
typo = alex



pseudo code

while ($j < \text{arr.length}$)

if $\text{str of } i == \text{type of } j$
 $i++$
 $j++$
else
 $j++$

if ($i == \text{str.length}()$)
 true
else
 false

```
public static void main(String[] args) {  
    Scanner scn = new Scanner(System.in);  
    String str = scn.nextLine();  
    String typo = scn.nextLine();  
  
    int i = 0;  
    int j = 0;  
    while ( j < typo.length() ) {  
        if ( i < str.length() && str.charAt(i) == typo.charAt(j) ) {  
            i++;  
            j++;  
        } else {  
            j++;  
        }  
    }  
    if ( i == str.length() ) {  
        System.out.println(true);  
    } else {  
        System.out.println(false);  
    }  
}
```

out of bound test case:

str = a

typo = aaaa

Compress The String

str \Rightarrow aaaa bbb c dddd e

Diagram illustrating the string compression process. The string "aaaa bbb c dddd e" is shown with counts written below each group: 4, 3, 1, 4, 1. Above the string, arrows indicate the grouping of characters into runs.

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

ans = a4b3c d4e

Code

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    String s = scn.nextLine();

    String ans = "";
    for (int i = 0; i < s.length(); i++) {
        int count = 1;
        while ( i + 1 < s.length() && s.charAt(i) == s.charAt(i + 1) ) {
            count++;
            i++;
        }

        ans += s.charAt(i);
        if (count > 1) {
            ans += count;
        }
    }

    System.out.println(ans);
}
```