Long Pressed Name

str = "alex"
   0 1 2 3

target = "aaleex"
   0 1 2 3 4 5

ans = true

str = "alex"
   0 1 2 3

target = "aaaaleabc"
   0 1 2 3 4 5 6 7 8

ans = false

Observation :-

→ each character of str should be present in target only

→ and all chars should be in same order

Ex 1

str = "alex"

target = "aaalleaxxx"

false

Ex 2

str = "alex"

target = "aaleexabc"

false

Ex 3

str = "alex"

target = "lleeex"

false

Ex 4

str = ""

target = "a"

false

psudo code

str = "alex"
0 1 2 3

↓ i

target = "aalecx"
0 1 2 3 4 5

↑ j

str = "aaa"

tar = "aaaea"

false

↓ i
↑ j

1) declare i=0, j=0
2) while loop until (j < n)
   2.1) if char at i == char at j
       i++;
   2.2) else if (tar.charAt(j) != tar.charAt(j-1))
       retrue false;

   j++;

if (i == str.length())
   retrue true;
else
   retrue false;

str = "alex"
↓ i

tar = "aaalee";
↑ j

$$T, C = O(str.len + tar.len)$$

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    String str = scn.nextLine();
    String target = scn.nextLine();
    boolean ans = longPressed(str, target);
    System.out.println(ans);
}
public static boolean longPressed(String str, String target) {
    int i = 0;
    int j = 0;
    while ( j < target.length() ) {
        if ( i < str.length() && str.charAt(i) == target.charAt(j) ) {
            i++;
        } else if ( j == 0 || target.charAt(j) != target.charAt(j - 1) ) {
            return false;
        }
        j++;
    }

    if ( i == str.length() ) {
        return true;
    } else {
        return false;
    }
}
```

$$str = \text{"}alex\text{"}abc\text{"}$$

$$tar = \text{"}aaleex\text{"}$$

i

j

$\Rightarrow$ <u>Binary Search</u> (searching algorithm)

↳ $O(\log(n))$: T.C

↳ Binary search can only work in a sorted array

<u>Note :-</u> Divide and conqure

working

(pre-req. :- array should be sorted)

arr =

0	1	2	3	4	5	6	7	8	9	10	11
1	3	4	5	7	9	11	12	13	20	50	75

, t = 7

si ei

mid

```
loop
    int mid = (si+ei)/2 ;
    if( arr[mid] == target){
          return mid;
    } else if( arr[mid] >  target){
          ei = mid-1;

    } else if( arr[mid] <  target){
          si = mid+1;

    }
```