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# Two Characters

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String $t$ always consists of two distinct alternating characters. For example, if string $t$'s two distinct characters are `x` and `y`, then `t` could be `xyxyx` or `yxyxy` but *not* `xxyy` or `xyyx`.

You can convert some string $s$ to string $t$ by deleting characters from $s$. When you delete a character from $s$, you must delete *all* occurrences of it in $s$. For example, if $s =$ `abaacdabd` and you delete the character `a`, then the string becomes `bcdbd`.

Given $s$, convert it to the longest possible string $t$. Then print the length of string $t$ on a new line; if no string $t$ can be formed from $s$, print $0$ instead.

**Input Format**

The first line contains a single integer denoting the length of $s$.
The second line contains string $s$.

**Constraints**

- $1 \leq |s| \leq 1000$
- $s$ only contains lowercase English alphabetic letters (i.e., `a` to `z`).

**Output Format**

Print a single integer denoting the maximum length of $t$ for the given $s$; if it is not possible to form string $t$, print $0$ instead.

**Sample Input**

```
10
beabeefeab
```

**Sample Output**

```
5
```

**Explanation**

The characters present in $s$ are `a`, `b`, `e`, and `f`. This means that $t$ must consist of *two* of those characters.

If we delete `e` and `f`, the resulting string is `babab`. This is a valid $t$ as there are only two distinct characters (`a` and `b`), and they are alternating within the string.

If we delete `a` and `f`, the resulting string is `bebeeeb`. This is not a valid string $t$ because there are *three* consecutive `e`'s present.

If we delete only `e`, the resulting string is `babfab`. This is not a valid string $t$ because it contains *three* distinct characters.

Thus, we print the length of `babab`, which is $5$, as our answer.

Submissions:20362

Max Score:20

Difficulty: Easy

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Current Buffer (saved locally, editable) C++14

```cpp
#include<bits/stdc++.h>
using namespace std;

string a2z="abcdefghijklmnopqrstuvwxyz";
int main()
{
   string s;
   int leng, max=0;
   cin>>leng; cin>>s;
   char ns[s.length()];

   for(unsigned int i=0;i<26;i++)            //loop 1
   {
      char a=a2z[i];  // comparing each alphabet from A 2 Z.
      for(unsigned int l=0;l<26;l++)         //loop 2
      {
         char b=a2z[l];
         int k=0;

         for(unsigned int j=0;j<leng;j++)    //loop 3
            if(s[j]==a||s[j]==b)
            {
               //cout<<s[j]<<" "<<i<<" "<<k<<endl;
               ns[k++]=s[j];
               //cout<<ns[k]<<endl;
            }

         ns[k]='\0'; //cout<<ns[k]<<endl;
         bool flag=true;

         for(unsigned int j=0;j<k;j++)       //loop 4
         {
            //cout<<ns[j]<<" ";
            if(ns[j]==ns[j+1])
            {
               flag=false;
               break;
            }
         }

         if(flag && s.length()>1)
            if(max<k)
            {
               max=k;
               //string Ans=ns;
               //cout<<"Ans:"<<Ans;
            }
         }
   }
   cout<<max<<endl;
   return 0;
}
```

Line: 52 Col: 2

Upload Code as File  Test against custom input  Run Code  Submit Code

Congrats, you solved this challenge!

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- ✔ Test Case #16
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- ✔ Test Case #18
- ✔ Test Case #19
- ✔ Test Case #20
- ✔ Test Case #21
- ✔ Test Case #22
- ✔ Test Case #23
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