



Codemania 3.0: Nunquam Soli Sumus

Mar 25, 2020, 04:00 PM IST - Mar 25, 2020, 10:00 PM IST

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Elaine's IQ

Max. Marks: 100

This problem is no longer available for practice. Apology for any inconvenience!

George, Elaine, and Jerry are sitting in the hallway. George is frustrated because he scored only 80 in the IQ test which he was forced to give by his girlfriend, Monica. Elaine agrees to give the test for him as she claims her IQ be 145. The test day arrives and the first question is as follows:

Given an arbitrary sequence of 0s and 1s, a valid sequence is defined as follows:

- 1) An empty sequence is valid.
- 2) If sequence p is valid, then $0p1$ is also valid.
- 3) If p and q are valid, then pq is valid.

Now given a sequence, allowed operations are replacing 0s with 1s and vice versa. Find the minimum number of operations required to make sequence valid.

Now as Elaine is busy with logical questions and she desperately needs to prove her IQ is 145 (even though it is not), she asks you for help. Can you help Elaine?

INPUT

- No of test cases, t
- For each line t , given a sequence.

OUTPUT

- T lines giving no of minimum operations required for each line, if not possible to make sequence valid, then print -1.

Constraint

- $1 \leq t \leq 1000$
- $1 \leq |\text{str}| \leq 1000$

SAMPLE INPUT



10

LIVE EVENTS

```
3
110110110111
010101111111100110
0001
```

SAMPLE OUTPUT



```
3
5
1
```

Explanation

In input 3: 0001 can be converted to 0011 which requires 1 operation.

Time Limit: 0.5 sec(s) for each input file.

Memory Limit: 256 MB

Source Limit: 1024 KB

Marking Scheme: Marks are awarded if any testcase passes.

Allowed Languages: Bash, C, C++, C++14, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Swift, Swift-4.1, TypeScript, Visual Basic

CODE EDITOR

Save

C (gcc 5.4.0)



```
1  /*
2  // Sample code to perform I/O:
3  #include <stdio.h>
4
5  int main(){
6      int num;
7      scanf("%d", &num);           // Reading input from STDIN
8      printf("Input number is %d.\n", num); // Writing output to STDOUT
9  }
10
11 // Warning: Printing unwanted or ill-formatted data to output will cause the test
12 // cases to fail
13
14 // Write your code here
15
```



10

1:1 vsc

LIVE EVENTS

☒ Provide custom input

COMPILE & TEST

SUBMIT

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