C - Security 2

Editorial (/contests/abc407/tasks/abc407_c/editorial)

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Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 300 points

Problem Statement

At the entrance of AtCoder Inc., there is a special pass-code input device. The device consists of a screen displaying one string, and two buttons.

Let t be the string shown on the screen. Initially, t is the empty string. Pressing a button changes t as follows:

- Pressing **button A** appends `0` to the end of t.
- Pressing **button B** replaces every digit in t with the next digit: for digits `0` through `8` the next digit is the one whose value is larger by 1; the next digit after `9` is `0`.

For example, if t is `1984` and button A is pressed, t becomes `19840`; if button B is then pressed, t becomes `20951`.

You are given a string S. Starting from the empty string, press the buttons zero or more times until t coincides with S. Find the minimum number of button presses required.

Constraints

- S is a string consisting of `0`, `1`, `2`, `3`, `4`, `5`, `6`, `7`, `8`, and `9`.
- $1 \leq |S| \leq 5 \times 10^5$, where $|S|$ is the length of S.

Input

The input is given from Standard Input in the following format:

S

Output

Output the answer.

Sample Input 1 Copy

```
21
```

Copy

Sample Output 1 Copy

```
4
```

Copy

The following sequence of presses makes t equal to 21.

1. Press button A. t becomes 0.
2. Press button B. t becomes 1.
3. Press button A. t becomes 10.
4. Press button B. t becomes 21.

It is impossible to obtain 21 with fewer than four presses, so output 4.

Sample Input 2 Copy

```
407
```

Copy

Sample Output 2 Copy

```
17
```

Copy

Sample Input 3 Copy

```
20255242025524202552420255 24
```

Copy

Sample Output 3 Copy

```
150
```
Copy

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