Problem A
Edit Distance

A binary string is a non-empty sequence of 0's and 1's, e.g., `010110`, `1`, `11101`, etc. The edit distance of two binary strings S and T, denoted by $edit(S, T)$, is the minimum number of single-character edit (insert, delete, or substitute) to modify S into T. For example, the edit distance of `0011` and `1100` is 4, i.e. `0011` $\rightarrow$ `011` $\rightarrow$ `11` $\rightarrow$ `110` $\rightarrow$ `1100`. The edit distance of `1100101` and `1110100` is 2, i.e. `1100101` $\rightarrow$ `1110101` $\rightarrow$ `1110100`.

Ayu has a binary string S. She wants to find a binary string with the same length as S that maximizes the edit distance with S. Formally, she wants to find a binary string T_{max} such that $|S| = |T_{max}|$ and $edit(S, T_{max}) \geq edit(S, T')$ for all binary string T' satisfying $|S| = |T'|$.

She needs your help! However, since she wants to make your task easier, you are allowed to return any binary string T with the same length as S such that the edit distance of S and T is more than half the length of S. Formally, you must return a binary string T such that $|S| = |T|$ and $edit(S, T) > \frac{|S|}{2}$.

Of course, you can still return T_{max} if you want, since it can be proven that $edit(S, T_{max}) > \frac{|S|}{2}$ for any binary string S. This also proves that there exists a solution for any binary string S. If there is more than one valid solution, you can output any of them.

Input

Input contains a binary string S ($1 \leq |S| \leq 2000$).

Output

Output in a line a binary string T with the same length as S that satisfies $edit(S, T) > \frac{|S|}{2}$.

Sample Input #1

```
0011
```

Sample Output #1

```
1100
```

Explanation for the sample input/output #1

As illustrated in the example above, the edit distance of `0011` and `1100` is 4. Since $4 > \frac{4}{2}$, `1100` is one of the valid output for this sample.

Sample Input #2

```
1100101
```

Sample Output #2

```
0011010
```