Problem D. Queue Disorder

Time limit 2000 ms
Memory limit 256MB

Problem Description

N students are queuing up to enter the computer labs for the final examination of Introduction to Algorithm. Each student belongs to one of two classrooms: classroom A students ('A') or classroom B students ('B'). The entire queue is represented by a string S of length N. We define a k-Disruption as a specific type of disorder in the queue.

A pair of student positions (i, j) forms a k-Disruption if and only if all the following conditions are met:

- Disorder: Student i is ahead of student j $(1 \leq i < j \leq N)$. The student at position i belongs classroom B, and the student at position j belongs to classroom A ($S[i] =' B'$ and $S[j] =' A'$).
- Distance: The difference in their positions is exactly k $(j-i = k)$.Your task is to calculate, for every possible distance k (from 1 to $N-1$), the total number of k-Disruptions in the queue.

After the teaching assistants finish examining all possible sources of disorder in the queue, they want to know the number of k-Disruptions for every possible distance k.

Input format

A single string S, consisting only of uppercase 'A's and 'B's. The length of the string s is $|s|$, $2 \leq |s| \leq 2 \times 10^5$

Output format

Output $N-1$ lines. The k-th line must contain a single integer: the count of k-Disruptions.

Subtask score

Subtask	Score	Additional Constraints
0	0	Sample testcases
1	36	$N \leq 3000$
2	64	No additional constraints

Sample

Sample Input 1

```
BABAA
```

Sample Output 1

```
2
1
1
1
```

Sample Input 2

```
AABAB
```

Sample Output 2

```
1
0
0
0
```