Let's Play a Game

A linear board of size n contains identical squares of unit size in four different colors: Red, Blue, Green, White. There are r Red squares, g Green squares, b Blue squares and w White squares. Each square has a distinct amount of coins. A player is allowed to make a move such that if he is on a square X, he can move either to square Y or Z according to the following rules:

- When X = Red, Y = Green, Z = White.
- When X = Green, Y = Red, Z = Blue.
- When X = Blue, Y = White, Z = Green.
- When X = White, Y = Blue, Z = Red.

A player will continue to make a move till there is no possible move left. A player cannot revisit a square. At each move player picks up all the coins that are at the square. Consider the sequence of moves as S. The score of a player is defined as the length of the longest increasing subsequence of the coins collected in each move of S.
For example if the sequence of coins picked is $1, 5, 2, 3, 4$, the longest increasing sequence here is $1, 2, 3, 4$ and the size is 4.

Find the maximum possible score.

Input Format

The first line of input contains a single integer n. Second line contains a string s of length n, where i^{th} charater denotes the colour of i^{th} square. Third line n space separated integers where i^{th} integer denotes the number of coins in i^{th} square.

Constraints

- $1 \leq n \leq 400000$
- $1 \leq \text{Number of coins in a square} \leq 10^8$
- no two squares have the same number of coins

Output Format

Print a single integer denoting the maximum possible score (the length of the longest increasing subsequence).

Sample Input 0

```
4
RGBW
3 4 5 6
```

Sample Output 0

```
4
```

Explanation 0

Consider the sequence of moves: R -> G -> B -> W. The coins collected are in the order: $3, 4, 5, 6$.

If we consider this whole sequence, its longest increasing subsequence is of length 4. There is no other sequence of moves that can generate a score more than this. Hence ,answer is 4.