Problem

Chef has the binary representation S of a number X with him. He can modify the number by applying the following operation **exactly once**:

- Make $X := X \oplus \lfloor \frac{X}{2^Y} \rfloor$, where $(1 \leq Y \leq |S|)$ and $\oplus$ denotes the bitwise XOR operation.

Chef wants to **maximize** the value of X after performing the operation. Help Chef in determining the value of Y which will maximize the value of X after the operation.

Input Format

- The first line of input will contain a single integer T, denoting the number of test cases.
- Each test case consists of two lines of inputs - the first containing the length of binary string S.
- The second line of input contains the binary string S.

Output Format

For each test case, output on a new line, the value of Y which will maximize the value of X after the operation.

Constraints

- $1 \leq T \leq 5 \cdot 10^4$
- $1 \leq |S| \leq 10^5$
- The sum of $|S|$ over all test cases won't exceed $5 \cdot 10^5$.
- S contains the characters 0 and 1 only.

Sample 1:

Input	Output
4 2 10 2 11 3 101 3 110	1 2 1 2

Explanation:

Test case 1**:** Since $S = 10$ is the binary representation of 2, the current value of $X = 2$. On choosing $Y = 1$, X becomes $2 \oplus \lfloor \frac{2}{2^1} \rfloor = 3$. We can show that this is the maximum value of X we can achieve after one operation.

Test case 2**:** Since $S = 11$ is the binary representation of 3, the current value of $X = 3$. On choosing $Y = 2$, X becomes $3 \oplus \lfloor \frac{3}{2^2} \rfloor = 3$. We can show that this is the maximum value of X we can achieve after one operation.

Test case 3**:** Since $S = 101$ is the binary representation of 5, the current value of $X = 5$. On choosing $Y = 1$, X becomes $5 \oplus \lfloor \frac{5}{2^1} \rfloor = 7$. We can show that this is the maximum value of X we can achieve after one operation.

Test case 4**:** Since $S = 110$ is the binary representation of 6, the current value of $X = 6$. On choosing $Y = 2$, X becomes $6 \oplus \lfloor \frac{6}{2^2} \rfloor = 7$. We can show that this is the maximum value of X we can achieve after one operation.