

Problem H

Zero Commander Tactical Analysis

Time limit: 3 seconds

Memory limit: 1024 megabytes

Problem Description

On a battlefield of length n , each position is occupied by either a soldier of Team 0 or a soldier of Team 1.

If k several consecutive soldiers of the same team stand together, they form a “battalion”.

The “tactical power” of this battalion is determined by the total number of communication links that can be formed within it. A “communication link” can be formed between any two soldiers in the same battalion.

For example, if a battalion of Team 0 consists of 3 consecutive soldiers A, B and C. The total tactical power for this battalion is 3. Since the communication link can be formed between (A, B), (A, C) and (B, C).

For another example, if a battalion of Team 0 consists of 4 consecutive soldiers A, B, C and D, the total tactical power is 6.

However, since a single soldier battalion has 0 links, so its power is 0.

Both Team 0 and Team 1 can form battalions according to this rule. You are now the commander of Team 0, and you realize that you can write a program to quickly analyze the tactical power of both sides in order to judge the battlefield situation.

Finally, compare the total tactical powers of Team 0 and Team 1. If Team 0 has more tactical powers, output ‘Advantages’. If Team 1 has more tactical powers, output ‘Disadvantages’. If Team 0 and Team 1 have same tactical powers, output ‘Balance’.

Input Format

The first line contains an integer T , the number of test cases. For each test case, the first line contains an integer n , the number of soldiers. The second line contains n integers, each either 0 or 1, representing the position is occupied by Team 0 or Team 1..

Output Format

For each test case, output ‘X : Y <Result>’, where X is the tactical power of Team 0, Y is the tactical power of Team 1, <Result> is replaced as ‘Advantages, Disadvantages or Balance’ according to the battlefield situation.

Technical Specification

- $1 \leq T \leq 100$
- $1 \leq n \leq 10^5$

Sample Input 1

```
3
6
0 0 0 1 0 0
4
1 1 0 0
5
0 1 1 1 0
```

Sample Output 1

```
4 : 0 Advantages
1 : 1 Balance
0 : 3 Disadvantages
```