Problem H
Richard Hamming

Time limit: 1 second
Memory limit: 256 megabytes

Problem Description

The Hamming distance $d_H(\vec{v}, \vec{u})$ between two n-dimensional vectors $\vec{v} = (v_1, \ldots, v_n)$ and $\vec{u} = (u_1, \ldots, u_n)$ is defined as $d_H(\vec{v}, \vec{u}) = |\{i : v_i \neq u_i \text{ and } i \in \{1, \ldots, n\}\}|$, i.e., the number of positions at which the corresponding entries are different. For example, the Hamming distance between $(1, 2, 3, 4, 5)$ and $(1, 0, 0, 4, 5)$ is 2, since these two vectors differ only at the second and the third positions. Please write a program to compute the Hamming distance between two n-dimensional vectors.

Input Format

On the first line there is a single integer T ($T \leq 100$) indicating the number of test cases. Each test case consists of three lines. The first line of each test case contains an integer n ($0 < n \leq 50$) indicating the dimension of the vectors. The second line contains n integers $v_1, \ldots, v_n$, and the third line contains n integers $u_1, \ldots, u_n$. You may assume that $v_1, \ldots, v_n, u_1, \ldots, u_n \in \{0, 1, \ldots, 99\}$.

Output Format

For each test case, output the Hamming distance between $(v_1, \ldots, v_n)$ and $(u_1, \ldots, u_n)$.

Sample Input

```
2
3
1 2 3
3 2 1
4
1 0 1 0
1 0 1 1
```

Sample Output

```
2
1
```

Postscript

Richard Hamming won the Turing award in 1968 for his contribution on numerical methods, error detecting codes, and error correcting codes.