The one of the edition distance (I) P26005_en

Concurso On-line 7 (OIE08) (2008)

Some problems are so classic that barely need a statement. For this one, please compute the minimum cost to insert letters into two words w_1 and w_2 to make them identical. Both words are made up of only letters chosen among the n smallest lowercase letters (for instance, for $n = 4$, the alphabet is $\{a, b, c, d\}$). For every letter (call it x), inserting an x in any place in any word has cost I_x.

Input

Input consists of several cases. Each case begins with $2 \leq n \leq 26$, followed by n strictly positive natural numbers $I_{\mathtt{a}}, I_{\mathtt{b}}, I_{\mathtt{c}}, \ldots$. Follow two words w_1 and w_2 made up of between 1 and 1000 lowercase letters chosen among the n smallest letters. Assume $1 \leq I_x \leq 1000$ for every letter x.

Output

For every case, print the minimum cost to make w_1 and w_2 identical.

Sample input

```
2
11 10
aaa
aba

4
100 100 100 1
abcd
bcda

3
1 10 100
abbcabccabbac
bbcabacabbac

4
1 2 1 4
dcbbcbbddccdabdbdbdcbbc
cddcab
```

Sample output

```
21
200
102
40
```

Problem information

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