Mathison and pangrams Problem Code: **MATPAN**

Mathison recently inherited an ancient papyrus that contained some text. Unfortunately, the text was not a **PANGRAM**. Now, Mathison has a particular liking for holoalphabetic strings and the text bothers him. The good news is that Mathison can buy letters from the local store in order to turn his text into a pangram.

However, each letter has a price and Mathison is not very rich. Can you help Mathison find the cheapest way to obtain a pangram?

Input

The first line of the input file will contain one integer, **T**, representing the number of tests.

Each test will be formed from two lines. The first one contains **26** space-separated integers, representing the prices of all letters. The second will contain Mathison's initial text (a string of **N** lowercase letters).

Output

The output file will contain **T** lines, one for each test. Each line will contain the answer for the corresponding test.

Constraints and notes

- $1 \le T \le 10$
- $1 \le N \le 50{,}000$
- All prices are natural numbers between 1 and 1,000,000 (i.e. 10^6).
- A pangram is a string that contains every letter of the Latin alphabet at least once.
- All purchased letters are added to the end of the string.

Subtaks

Subtask #1 (30 points):

- **N** = 1

Subtask #2 (70 points):

- Original constraints

Example

Input:

```
2

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

abcdefghijklmopqrstuvwz
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

thequickbrownfoxjumpsoverthelazydog

Output:

63

0

Explanation

First test

There are three letters missing from the original string: n (price 14), x (price 24), and y (price 25).

Therefore the answer is 14 + 24 + 25 = 63.

Second test

No letter is missing so there is no point in buying something. The answer is 0.