Greg wants to build a string, S of length N. Starting with an empty string, he can perform 2operations:

- 1. Add a character to the end of S for A dollars.
- 2. Copy any substring of S, and then add it to the end of S for S dollars.

Calculate minimum amount of money Greg needs to build S.

## **Input Format**

The first line contains number of testcases T.

The  $2 \times T$  subsequent lines each describe a test case over 2 lines: The first contains  ${f 3}$  space-separated integers,  ${m N}$ ,  ${m A}$ , and  ${m B}$ , respectively. The second contains S (the string Greg wishes to build).

#### **Constraints**

- $1 \le T \le 3$
- $1 \le N \le 3 \times 10^4$   $1 \le A, \overline{B} \le 10000$
- $oldsymbol{\cdot}$  is composed of lowercase letters only.

### **Output Format**

On a single line for each test case, print the minimum cost (as an integer) to build S.

### **Sample Input**

```
9 4 5
aabaacaba
9 8 9
bacbacacb
```

# **Sample Output**

42

#### **Explanation**

```
Test Case 0:
S_{initial} = ""; S_{final} = "aabaacaba"
Append "a"; S = a"; cost is a = a
Append "\tilde{a}"; \tilde{S} = "\tilde{a}a"; cost is \tilde{4}
Append "b"; S = "aab"; cost is 4
Copy and append "aa"; S = "aabaa"; cost is 5
Append "c"; S = "aabaac"; cost is 4
Copy and append "aba"; S = "aabaacaba"; cost is 5
```

Summing each cost, we get 4+4+4+5+4+5=26, so our output for *Test Case 1* is 26.

```
Test Case 1:
S_{initial} = ""; S_{final} = "bacbacacb"
Append "b"; S = "b"; cost is $8
Append "a"; S = "ba"; cost is $8
Append "c"; S = "bac"; cost is $8
Copy and append "bac"; S = "bacbac"; cost is $9
Copy and append "acb"; S = "bacbacacb"; cost is $9
```

Summing each cost, we get 8+8+8+9+9=42, so our output for Test Case 2 is 42.