🅷 | 🏠 Practice 🕓 Compete 💼 Jobs 🎖 Rank 🏆 Leaderboard   [🔍   ]   💬 📢 🅷

Badge Progress (Details)   Points: 126 Rank: 270086

[_____]

Build a String 🔖

👤 by nikasvanidze

| Problem | Submissions | Leaderboard | Discussions | Editorial 🔒 |

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

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 B 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 3 space-separated integers, N, A, and B, respectively.
The second contains S (the string Greg wishes to build).

Constraints

- $1 \leq T \leq 3$

- $1 \leq N \leq 3 \times 10^4$

- $1 \leq A, B \leq 10000$

- S 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

```
2
9 4 5
aabaacaba
9 8 9
bacbacacb
```

Sample Output

```
26
42
```

Explanation

Test Case 0:
$S_{initial} =$ ""; $S_{final} =$ "$aabaacaba$"
Append "a"; $S =$ "a"; cost is 4
Append "a"; $S =$ "aa"; cost is 4

f 🐦 in

Submissions:835

Max Score:80
Difficulty: Hard

Rate This Challenge:
☆ ☆ ☆ ☆ ☆

More

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.

Current Buffer (saved locally, editable)   🔀 🕓   Java 7 ▾   ⚙

```java
1  import java.io.*;
2  import java.util.*;
3  import java.text.*;
4  import java.math.*;
5  import java.util.regex.*;
6
7  public class Solution {
8
9      public static void main(String[] args) {
10         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
11     }
12 }
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ Test against custom input   Run Code   Submit Code

---

Join us on IRC at #hackerrank on freenode for hugs or bugs.

Contest Calendar | Blog | Scoring | Environment | FAQ | About Us | Support | Careers | Terms Of Service | Privacy Policy | Request a Feature