



# Şırdancı Aydan

It is yet another brilliant day for the Şırdancı Family. Şırdancı Aydan makes şırdan for her customers and feeds them with that delicious and juicy şırdans.

One day, she decided to print her favorite customer's message on the walls. The purpose was to let every single one of her customers to see it. However, we should never print messages on the restaurant walls according to **Cracking the Wall Painting Interviews Edition 2**. As a result, Aydan decided to write the altered message's checksum on the wall.

Aydan intends to use  $N - 1$  transformation to start with her favorite customer's original message. These modifications either concatenate two prior strings or take the substring of one of the previous strings.

Can you help her to calculate the checksum of the last string?

## Input Format

The input consists of many lines:

- The first line contains an integer  $N$ ;
- The next line contains a string  $S[0]$  of lowercase alphabetic letters between  $a$  and  $z$ ;
- The next  $N - 1$  lines include instructions for constructing the strings  $S[1], \dots, S[N - 1]$ . The string  $S[i]$  construction instruction is either:
  - `SUB a l h` with  $a, l, h$  integers such that  $0 \leq a < i$  and  $0 \leq l \leq h \leq \text{length}(S[x])$
  - `APP a b` with  $a, b$  integers such that  $0 \leq a, b < i$
- The instruction `SUB a l h` signifies that  $S[i]$  is made up of (a copy of) characters from index  $l$  (inclusive) to index  $h$  (exclusive). Characters are numbered from  $0$ ;
- The instruction `APP a b` specifies that  $S[i]$  is created by concatenating copies of strings  $S[x]$  and  $S[y]$  in that sequence, with  $S[x]$  first and  $S[y]$  second;

## Constraints

$$1 \leq N \leq 25 \cdot 10^2$$

$$1 \leq \text{length}(S[0]) \leq 10^3$$

The length of any string  $S[i]$  will never exceed  $2^{63} - 1$

## Output Format

The result should be a single line with an integer reflecting the sum of all ASCII codes for the characters in the final string  $S[N - 1]$ , modulo **1000000007**.

## Sample Input

Copy

Submit Solution

✓ **Points:** 1  
⌚ **Time limit:** 1.0s  
Java 8: 3.0s  
Python: 5.0s

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```
3
foobar
SUB 0 0 3
APP 1 1
```

Sample Output 0

648

Copy

Explanation 0

foofoo -> 2 \* 102 + 4 \* 111- > 648

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