Amlans Day Out

ZPRAC-16-17-Lab6

[30 points]

Good work! Bhuvesh and Rohan rope you in to study their next target - Amlan.

Amlan is deeply passionate about Computer Vision. He even bought a self-driving car from Google, so he could hack into it and learn more. Bhuvesh and Rohan, on hacking into Amlan's computer find out that he has modified the autopilot system, and is taking it for a ride on Kanpur's busy streets. But they spot a big mistake in his code! If it is not fixed, his car would crash into another in no time! The worst part is, Amlan is sleeping soundly in his car, you need to drive his car for him!

Bhuvesh and Rohan have managed to dig up a password, and the encrypted code for Amlan's car system, but they can't figure out how to use the password. Can you help them?

The encrypted code comprises of N uppercase characters. The password comprises of K integers which are in the range [0, 25] inclusive. To get the desired decrypted code, the following steps need to be followed -

1) Take the first letter of the encrypted code, and the first digit of the password. Shift the first letter by a number of places indicated by the digit to get the first letter of the desired decrypted code. For example, if the first letter is 'A', and the digit is '2', then we get 'C'. If we have the first letter as 'Z', and the digit as '3', then we also get 'C' (we wrap-around).

2) Repeat the above process for the other letters. After using the last digit of the password, wrap-around and use the first one again for the next step. For example, if the password is '02', and the encrypted code is 'ABCDEF', then for the third letter 'C', use the first digit '0' again, for 'D' use '2' again and so on...

The input consists of three lines. The first line contains two space-separated integers N and K, the number of characters in the code and in the password respectively. The next line contains a string of N characters i.e. the code. The following line consists of K space-separated integers in the range [0, 25] (inclusive)

The output should consist of a single line, containing the decrypted code of length N.

Constraints :

$1 \leq N \leq 1000$

$1 \leq K \leq 100$

Each of the K integers lie in the range [0, 25] (Inclusive)

Example:
Input:
5 2
XBBIE
10 3

Output:
HELLO

Explanation :
'X' + 10 = 'A' + 7 = 'H'
'B' + 3 = 'E'
'B' + 10 = 'L'
'I' + 3 = 'L'
'E' + 10 = 'O'