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## String insertion

P21174\_en

Quinzè Concurs de Programació de la UPC - Semifinal (2017-06-29)

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Implement an efficient data structure to keep a dynamic array  $A[0..]$  of strings, with two operations:

- 'I'  $s\ i$ : Increase the size of  $A$  by one (like `A.push_back("")`); Move every string at a position  $j$  such that  $j \geq i$  one position to its right. Store the string  $s$  at the  $i$ -th position, which now is empty.
- 'C'  $j$ : Print the  $j$ -th character (0 based) of the whole array, considering the concatenation of all its strings from left to right.

### Input

Input consists of just one case. Assume that each  $s$  has between 1 and 10 lowercase letters, each  $i$  is between 0 and the current number of strings, and each  $j$  is between 0 and the current number of characters minus one. The total number of operations is at most  $3 \cdot 10^5$ . An 'E' marks the end of the input.

### Output

Print a line with the letter at the  $j$ -th position for each 'C' operation.

#### Sample input

```
I hello 0
C 0
C 4
I bye 0
C 0
C 7
I hi 1
C 4
C 1
C 9
E
```

#### Sample output

```
hoboiyo
```

### Problem information

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Generation : 2017-06-29 21:37:34

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