



STL stack

Implement different operations on a stack s .

Input:

The first line of input contains an integer **T** denoting the no of test cases . Then T test cases follow. The first line of input contains an integer **Q** denoting the no of queries . Then in the next line are **Q** space separated queries .

A query can be of four types

1. a x (Pushes an element x to the stack s)
2. b (if stack is not empty pops top element and prints it, else prints -1)
3. c (prints the size of the stack)
4. d (if stack is not empty prints the top element of the stack, else prints -1)

Output:

The output for each test case will be space separated integers denoting the results of each query .

Constraints:

$$1 \leq T \leq 100$$

$$1 \leq Q \leq 100$$

Example:

Input

```
2
5
a 4 a 6 a 7 b c
3
a 55 a 11 d
```

Output

```
7 2
11
```

Explanation :



For the first test case

There are five queries. Queries are performed in this order

1. a 4 { stack s has 4 }
2. a 7 {stack s has 4,7 }
3. a 6 {stack s has 4,7,6}
4. b {pop 6 from stack s and prints it stack now has 4,7}
5. c {prints the size of the stack s}

For the sec test case

There are three queries. Queries are performed in this order

1. a 55 (stack s has 55}
2. a 11 (stack s has 55 ,11}
3. d (prints the top element of the stack s ie. 11)