## Calculation of Operations with Postfix Notation

Implement a program in C++ that calculates operations given in postfix notation, only considering the operators of sum (+), subtraction (-) and multiplication (*).

Postfix notation first includes the two operands, and right after includes the operator. For example, the following postfix notation sum:

77 33 +

represents the sum in infix notation (common notation) below:

77 + 33

Thus, the result is 110 for this postfix operation.

Notice, that in postfix notation, there is no ambiguity on how to associate operations, so postfix notation can be nested with all the possible combinations without ambiguity. For instance, the following postfix notation:

8 12 + 15 5 – * 2 *

represents the following operation:

((8+12) * (15-5)) * 2

Use the most appropriate linear data structure to solve this problem. You can either use a predefined linear data structure as introduced in class or use the implementation provided in the virtual campus.

**Input**

The first line will indicate the number of cases. Each case will be defined with a line with an operation with integers in postfix notation, ending with the word “end”.

**Output**

The output of each case should be printed in one line. The output will be the integer result of calculating the corresponding input postfix-notation operation.

**Example of input**

```
4
77 33 + end
1 2 3 4 5 6 + * + - * end
8 12 + 15 5 - * 2 * end
5 4 - 7 * 2 2 + * end
```

**Example of output**

```
110
-45
400
28
```