

Q1.

Input format

The input begins with an integer **n** on a line, which means that there are **n** test cases.

And the first character of each following row is the command.

+ : add two polynomials.

* : multiply two polynomials.

p : print the polynomials.

Each polynomial contains three integers.

E.g. $ax^2 + bx + c$, which a, b, c are three integers.

Constraints

Use **class** and **switch** to implement.

Output Format

You must output the result after doing the calculation.

E.g. + 1 1 1 2 2 2 means $(x^2 + x + 1) + (2x^2 + 2x + 2) = (3x^2 + 3x + 3)$

if the result number is $(3x^2 + 3x + 3)$, then you need to print $3x^2+3x+3$.

If the result is in the form of $x^2 + 1$, you should print x^2+1 , not as $1x^2+0x+1$
The highest degree is 4.

Sample Input

```
6
+ 1 2 1 -1 -1 -1
+ 1 1 1 -1 -1 -1
* 6 7 -3 -5 5 -1
* 1 0 1 3 0 -2
p 1 0 3
p 1 0 -3
```

Sample Output

```
x
0
-30x^4-5x^3+44x^2-22x+3
3x^4+x^2-2
x^2+3
x^2-3
```