BlueBook - Calculator

Time limit: 1.0s **Memory limit:** 16M

BlueBook

Given two integers A and B ($0 \leq A, B < 2^{32}$ - base 10), in bases B_1 and B_2 ($2 \leq B_1, B_2 \leq 10$), output the result of either `+ - * /` in the integral base B_F ($2 \leq B_F \leq 10$). The resulting answer will be less than 2^{32} in base 10, and will always be positive.

Perform integer division ($5/2 = 2$) on the operands. Substitute the operand into (A <operand here> B) - so you should perform ($A - B$), (A/B), etc.

Input Specification

Line 1: One integer T ($1 \leq T \leq 100$) denoting the number of test cases.
T test cases follow, and each test case consists of 6 lines, with test cases separated by newlines.

Each test case has the following format:
Line 1: B_1
Line 2: A
Line 3: B_2
Line 4: B
Line 5: The operand (Either `+`, `-`, `*`, or `/`)
Line 6: B_F

Sample Input

```
2
10
123
10
456
+
10

8
777
5
333
-
2
```

Sample Output

```
579
110100010
```