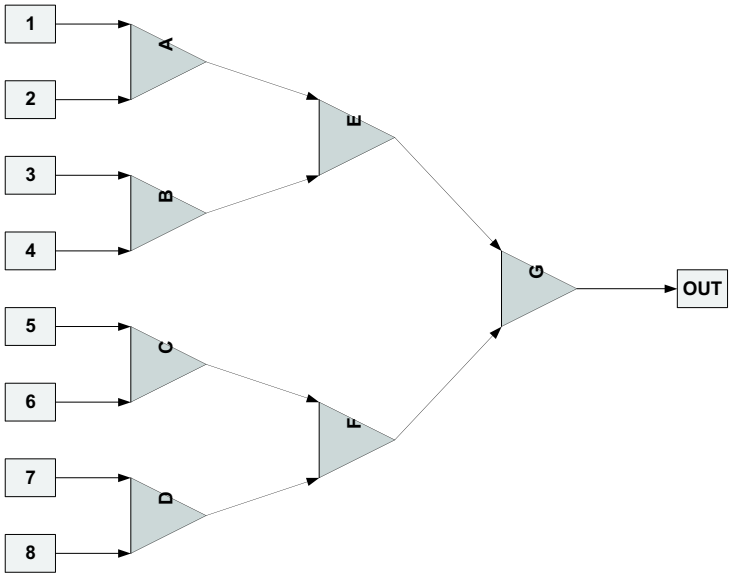
Problem 4	**It's Only Logical**	4 Points

Program Name: logic.cpp **Input File: logic.dat**

For this problem, you will simulate a simple integrated circuit with 8 inputs and 7 operations. In the diagram below, you can see that your program will perform binary logic operations (denoted by the triangles) to compute a result. The 8 input values will each be a 0 or 1 and your program will compute the value to be output as a 0 or 1.



Valid logical operations to your program are as follows.

Operation	Symbol	Description
AND	*	Outputs a 1 if both inputs are 1; outputs a 0 otherwise
OR	+	Outputs a 0 if both inputs are 0; outputs a 1 otherwise
NAND	!	Outputs a 0 if both inputs are 1; outputs a 1 otherwise
NOR	-	Outputs a 1 if both inputs are 0; outputs a 0 otherwise
XOR	x	Outputs a 1 if the inputs are not the same; outputs a 0 otherwise.

Input

Input to your program is a series of IC tests. Each IC test consists of exactly 15 characters. Columns 1-8 will each contain a 0 or a 1 and represent the input values in positions 1-8 from the picture above. Columns 9-15 will each contain one of the symbols from the table above and represent the operations in positions A-G in the picture above.

Output

For each IC test, your program should compute the value represented by the position OUT and print this value (either a 0 or 1) on a line by itself to the screen.

Example: Input File

```
01010101*+!-x*+
01001101*+!-x*+
11000101*+!xxxx
10101010xxxxxxx
10101010!!!!!!!
```

Output to screen

```
1
0
1
0
1
```