

Q2: Rinse. Lather. Repeat. Rinse. Lather. Repeat...

Given a set of $1 \leq n \leq 5$ nested **for** statement loops, how many times does the innermost BODY execute? In a **for** statement loop, an integer *loop variable* is incremented by 1 starting from an initial minimum value until it reaches a terminating maximum value.

Consider the two examples in the table on the right. In example **E1**, the outer *i* loop iterates 3 times while the inner *j* loop iterates 6 times, thus BODY executes 18 times. In example **E2**, the outer *k* loop iterates 3 times but the inner *j* loop iterates a variable number of times. The first time through, the *j* loop iterates 5 times, then the second time it iterates 4 times, and in the third and final time, it iterates 3 times, for a total of 12 executions of the innermost BODY.

#	Sample Code With Nested For Statements	Number of times BODY executes
E1	<pre>for i = 1 to 3 do for j = 2 to 7 do BODY end end</pre>	18
E2	<pre>for k = 1 to 3 do for j = k to 5 do BODY end end</pre>	12

The syntax of the **for** statement is defined below:

```
stmt      := for var = expr to expr do
expr      := var | 0 .. 9
var       := a .. z
```

Your program shall read the declaration of up to 5 nested **for** statement loops and output how often the innermost BODY executes. You can assume that: all variables are lowercase letters; any numeric expression is a digit in the range 0 .. 9; no *loop variable* is duplicated in any provided input; any *loop variable* referenced in an expression is properly defined in an earlier **for** statement loop (as in example **E2**); and the input is grammatically correct. As with any **for** statement loop, if the initial minimum value is already greater than the terminating maximum value, then the **for** statement loop does not execute.

Input

The first line of input will be an integer on a line by itself representing the number of nested **for** statement loops, *n*; you can assume $1 \leq n \leq 5$. Each of the subsequent *n* lines of input will contain the declaration of a single **for** statement. The input will be both syntactically and semantically correct.

Output

Your output will contain a single integer on a line by itself representing the number of times the innermost BODY would execute.

Sample Input and Output

Input	Output
1 for x = 1 to 9 do	9
2 for y = 2 to 9 do for z = y to 8 do	28
1 for i = 9 to 2 do	0
3 for a = 1 to 9 do for b = a to 7 do for c = a to b do	84

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