(Polish logician)
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Polish notation is a method of writing arithmetic expressions without using parentheses. Actually, Reverse Polish Notation (RPN) is used (no ethnic humor intended). To illustrate, consider the expression

$$(A+B)*C .$$

In RPN, this is written as

$$A \ B + C \ *.$$

To write an infix expression in RPN, fully parenthesize the infix expression,

$$(A+B)*C = ((A+B)*C).$$

Now remove every left parenthesis, remove every operator, and replace every right parenthesis by the operator that corresponds to it. The result is the RPN equivalent of the infix expression.

The meaning of an RPN expression is obtained by scanning the string from left to right and as each operator is encountered perform that operation on the two operands that are to the left of the operator and replace the operator and operands by the result.
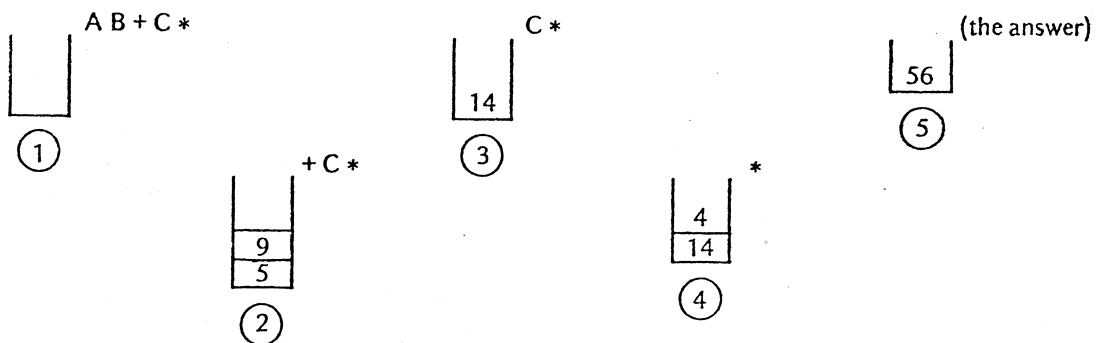
Assume A = 5, B = 9, and C = 4

Figure 3.4. Using a stack to evaluate A B + C *

Another way to describe the evaluation of reverse Polish expressions is by using a stack. Once again the RPN string is scanned from left to right and two rules are used:

1. If the symbol being scanned is an operand, push it into the stack;
2. If the symbol is an operator, pop the top two items from the stack, perform the operation on them, and push the result onto the stack.

Figure 3.4 illustrates this use of a pushdown stack to evaluate AB+C* where A, B, and C equal 5, 9, and 4, respectively.