

POSTFIX CALCULATOR

FUNCTIONAL SPECIFICATION

1. The calculator program is run from the command-line by typing the name of the executable. The program takes no parameters.
2. When invoked, the calculator displays no message; it simply waits for input.
3. The expected input to the calculator is a valid (well-formed) postfix expression containing integers, real numbers, and the mathematical operators $+$, $-$, $*$, $/$.
4. Integers and real numbers are limited to 20 characters; entry of numbers exceeding this size results in an error message.
5. When the user inputs the character "=", the program responds by printing the value of the number that is on top of the stack. If the stack is empty the program prints an error message.
6. The program detects attempts to divide by zero and prints an error message.
7. At any point in time the user may delete whatever value is on top of the stack by typing "c"; typing "c" when the stack is empty produces no results.
8. Tabs and newlines are treated like spaces.
9. The program continues to maintain its stack and respond to the typing of additional characters until the user ends its execution by typing "q".
10. The size of the stack is limited to 100 elements; attempts to exceed the number of elements on the stack result in the display of an error message.
11. Entry of any non-digit character other than "q" and "c" results in an error message.