COP4414 - Project 2
Reverse Polish Notation

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Development Environment

The program was developed using CLion (Version 2021.2.3) as the IDE on Windows 10 with MinGW-w64 being used as the compiler.

How to Run & Assumptions Made

When executing the program in the terminal, the program naturally assumes you are entering reverse polish notation.

The arguments should be entered with spaces separating each operator and operand. “s are expected to encompass the RPN equation, but the program can parse without them. Asterisks(*) will result in an error though without the “s as due to the windows console using it to call file names. The program assumes all inputs are meant to be a double or a char representing an operator. The only case where it handles a misinput is when a proper operator is not at the top of the stack when calling evaluate(). In which case it should default to returning a -1 and printing an error statement.

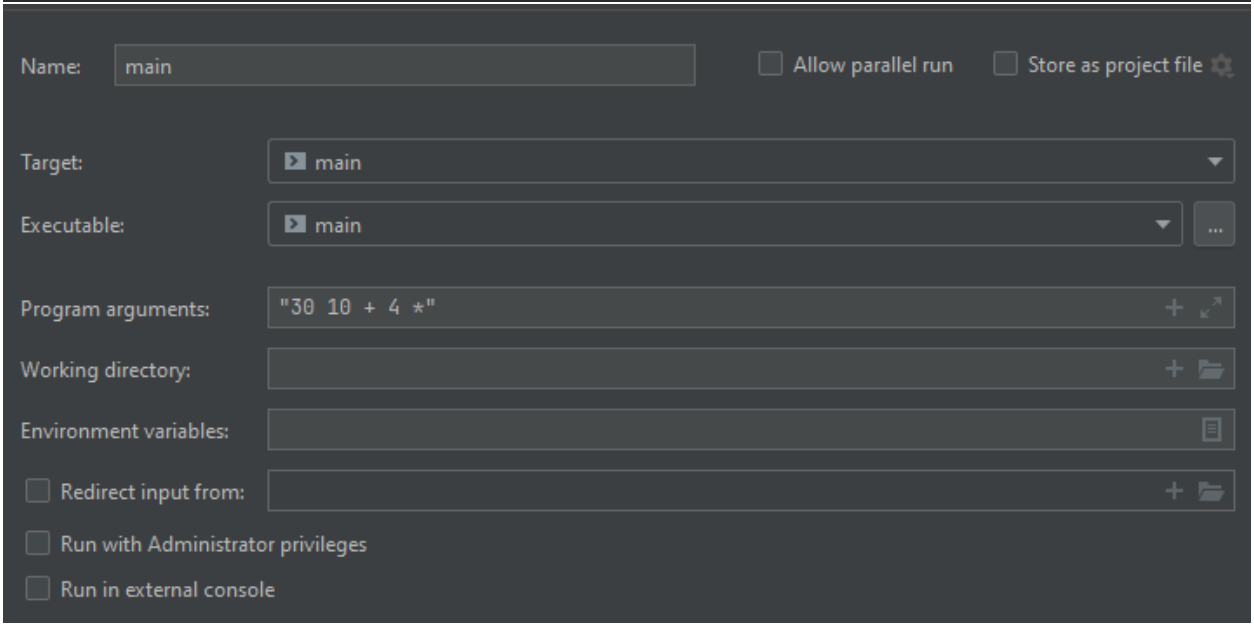
testStack

```
C:\Users\camer\CLionProjects\Project2\cmake-build-debug\testStack.exe
Stack contains (top to bottom):
Z- / 4 06 + 03 + * 001 04 004
Testing pop: Z
Size of Stack: 28

Stack contains (top to bottom):
- / 4 06 + 03 + * 001 04 004
Top: -
Evaluating RPN (400 40 100 * + 30 + 60 4 / -): 4415


Process finished with exit code 0
```

The string entered into the stack is “400 40 100 * + 30 + 60 4 / -“, a ‘Z’ was later pushed to test the push function on it’s own then popped later. The program then calls evaluate() and returns the result. Everything works as intended and returns the proper values.

Program Execution (main)

```
C:\Users\camer\CLionProjects\Project2\cmake-build-debug\main.exe "30 10 + 4 *"
Evaluating RPN of 30 10 + 4 *
Result: 160

Process finished with exit code 0
```



Program was executed through CLion and not directly in the terminal. Arguments were passed in the configuration settings to emulate directly entering: main.exe “30 10 + 4 *”. Everything runs as intended.

Note: It is possible to enter without “s but using * will result in an error as it uses file names. “s are *expected* to be used