PostFix Calculator

User Manual

(Team 2)

USER MANUAL

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1.0 GENERAL INFORMATION

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1.1 System Overview

PostFix Calculator is an application that executes calculations input by the user in postfix notation. The following operations are supported:

- Unary (+/-) operator to change the sign of a number.
- Unary sine and cosine operators.
- Unary factorial operator.
- Binary +,-,÷,× operators

The application allows input of and operations on the constant pi(π). Decimal numbers are also supported.

Unauthorized sale/redistribution of this software is forbidden. If the user wishes to use this software for educational purposes, please contact the developers using the support section of this manual.

1.2 Organization of the Manual

This manual is divided into distinct sections

- Getting started
- Using the System
- Support

2.0 GETTING STARTED

2.0 GETTING STARTED

2.1 Download and Startup

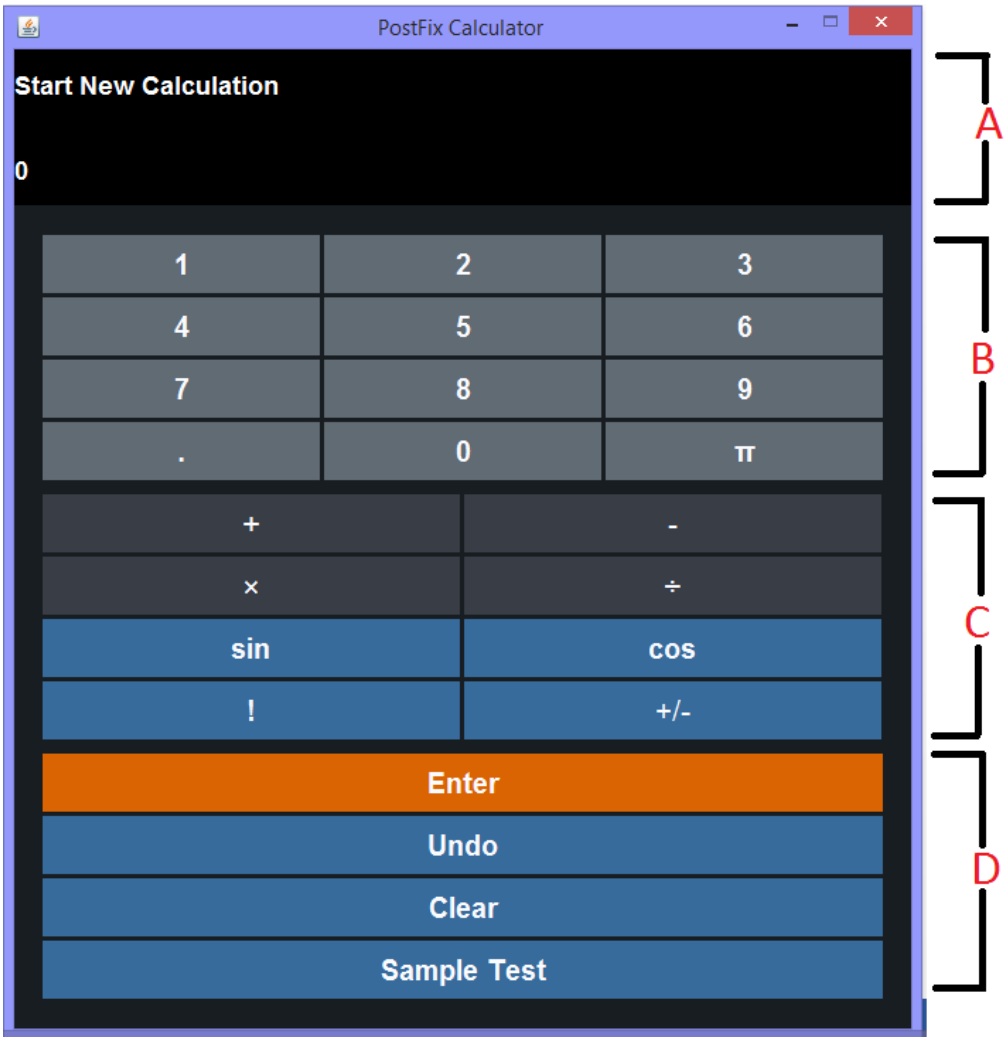
To get this software, visit http://vladimir95.github.io/ and download "PostFixCalculator.jar". The downloaded file is a java executable and contains the entire program.

To launch the program, double click the executable file. The program is launched in window mode.

2.2 User Interface

The application has no menu. Thus, upon launching the user has immediate access to the postfix calculator.

Please refer to the next page for a labelled image of the calculator interface.



- Panel A consists of two text fields. The first text field displays the output of the calculator. The second displays the user input.
- Panel B consists of the numpad, decimal button and pi symbol.
- Panel C consists of all the operators of the calculator.
- Panel D consists of the command buttons:
    - The “Enter” button tells the calculator when you have finished entering a certain input.
    - The “Undo” button removes the previous action of the user, subsequently removing earlier actions if pressed repeatedly.
    - The “Clear” button clears panel A and resets the calculator to its original state.
    - The “Sample test” button displays a test scenario for the calculator.

3.0 USING THE SYSTEM

3.0 USING THE SYSTEM

This section provides a general walkthrough of the application with the help of screenshots.

3.1 Postfix Notation

Postfix Notation (or Reverse Polish Notation) is a system of notation where the operations are entered after their arguments.

For example, the postfix expression for adding 2 and 4 would be “2 4 +”, as opposed to the infix expression “2+4” we use in our day to day lives.

PostFix Calculator accepts input in postfix notation only, hence it is advised that the user provides input exclusively in that notation. Many input/output examples will be provided in the next sub-section.

3.2 Some Examples

3.2.1 Unary Operations

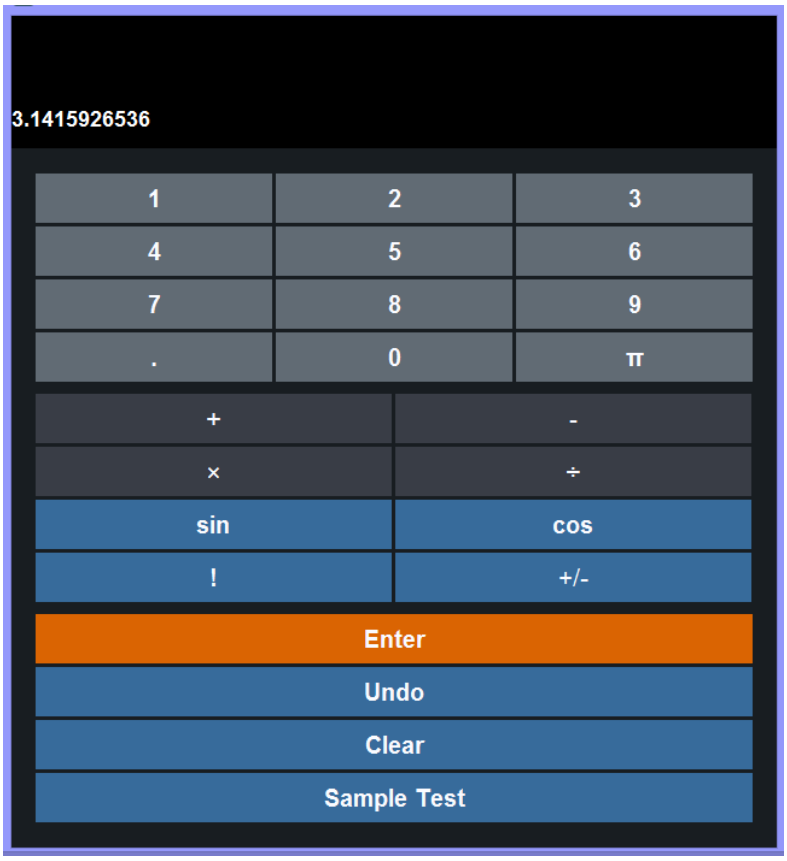
Unary Operations are operations performed on a single argument. To obtain a list of supported unary operations, please refer to section 1.1 of this user manual.

As an example, let us calculate the value of cos(π). To do so, the user must perform the following actions:

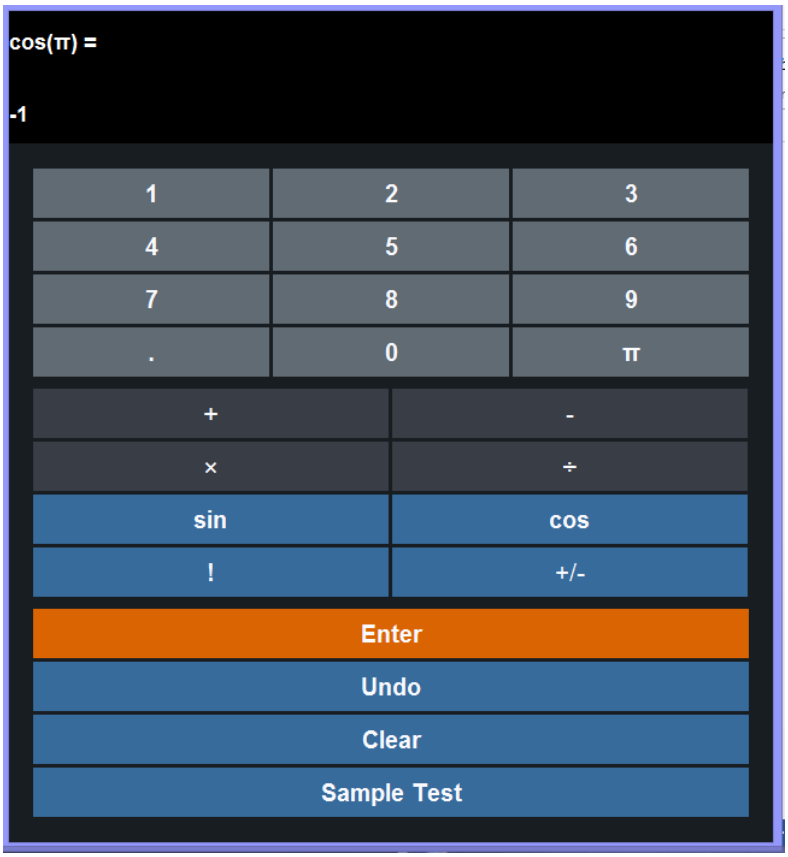
1. Input the constant pi(π) located at the bottom of the numpad by pressing it’s button.
2. Press the cosine operator button (cos) located in the operator panel.

Note that you don’t have to press enter to perform this operation.

The calculator will output the result at the top. Screendumps for this action are provided on the following pages


3.1415926536
1
2
3
4
5
6
7
8
9
.
0
π
+
-
×
÷
sin
cos
!
+/-
Enter
Undo
Clear
Sample Test

(Input pi)



(Press the cos operator for output)

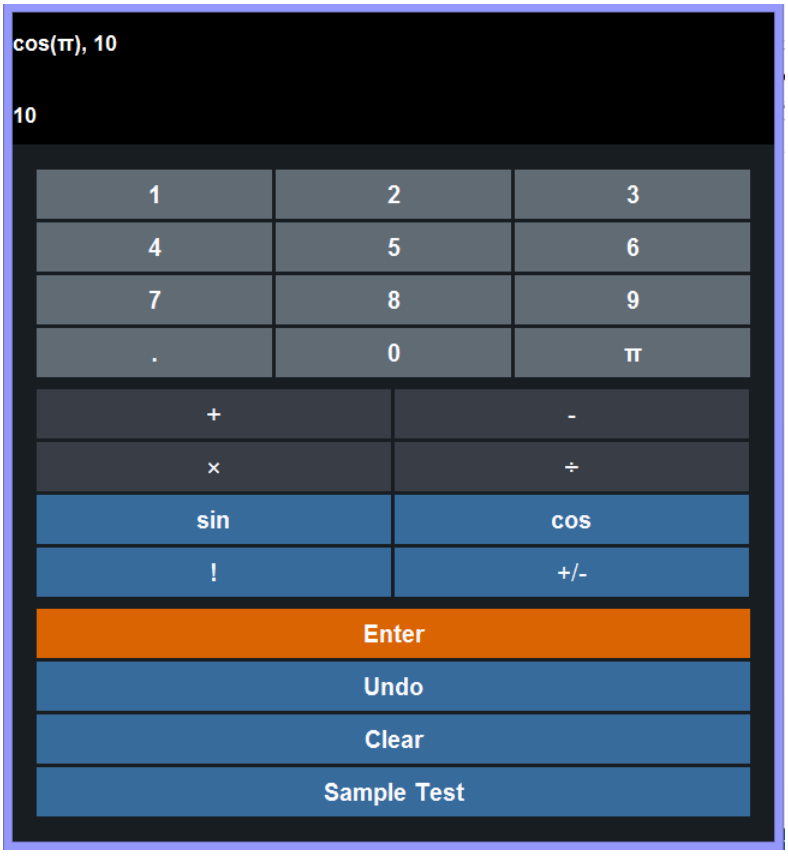
3.2.2 Binary Operations

Binary Operations are operations performed on two arguments to provide a single output. To obtain a list of supported binary operations, please refer to section 1.1 of this user manual.

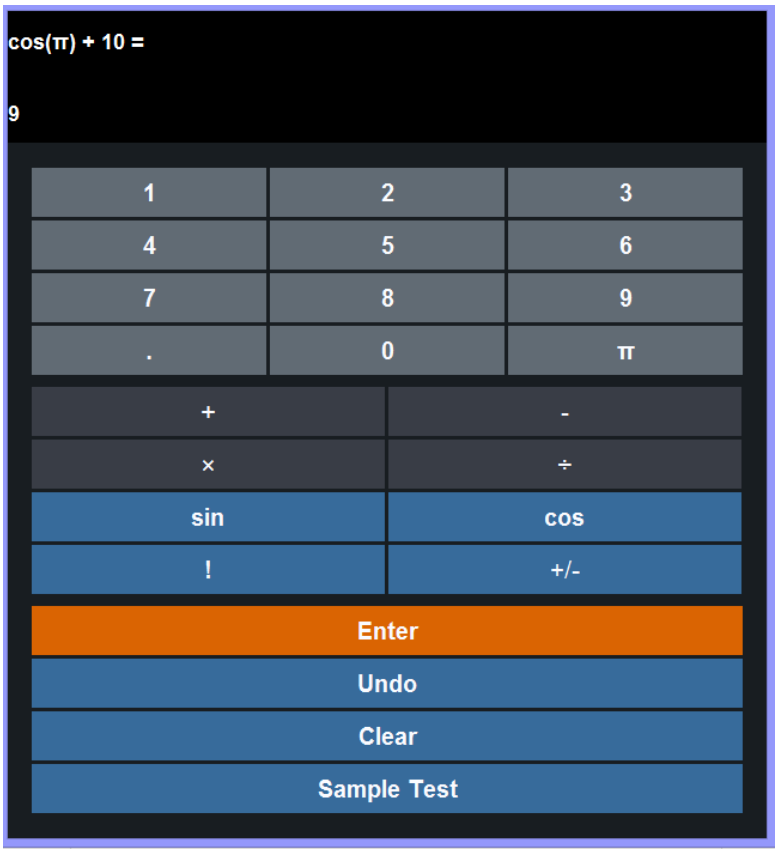
As an example, let us calculate the value of cos(π)+10. Note that this must be input in postfix notation. To do so, the user must perform the following actions:

1. Input the constant pi(π) located at the bottom of the numpad by pressing it's button.
2. Press the cosine operator button (cos) located in the operator panel.
3. Enter 10 on the numpad and press enter.
4. Press the "+" operator button.

The calculator will output the result at the top. Screendumps for steps 3 and 4 are provided on the following pages. Please refer to section 3.2.1 for screendumps corresponding to steps 1 and 2.



(After calculating cos(pi), input 10)



(Press the “+” operator button to receive the output)

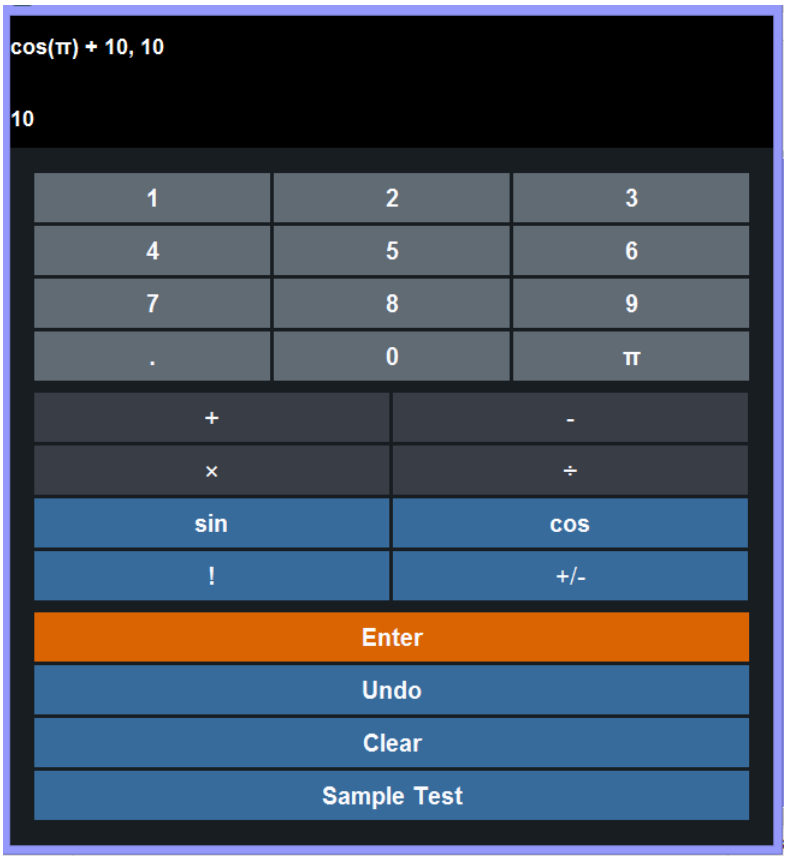
3.2.3 Compound Expressions

Compound expressions are simply expressions that consist of multiple arguments being operated upon by unary and binary operators in a distinct order. The calculator supports all compound expressions possible with the supported operators.

As an example, let us calculate the value of ((cos(π)+10)×10). Note that this must be input in postfix notation. To do so, the user must perform the following actions:

1. Input the constant pi(π) located at the bottom of the numpad by pressing it's button.
2. Press the cosine operator button (cos) located in the operator panel.
3. Enter 10 on the numpad and press enter.
4. Press the "+" operator button.
5. Enter 10 on the numpad and press enter.
6. Press the "×" operator buttonto receive the output.

The calculator will output the result at the top. Screendumps for steps 5 and 6 are provided on the following pages. Please refer to section 3.2.1 and 3.2.2. for screendumps corresponding to steps 1-4.



(Enter 10 using the numpad)

(Press the + operator for the output)

4.0 SUPPORT

4.0 SUPPORT

4.1 Contact Information

A user experiencing technical issues or wishing to receive more support on operating the calculator may call us at our customer care phone number:

1-800-POS-TFIX

Thank you for using our product.