Project 1

Theodore Wiebold

University of Texas at Dallas

When creating the calculator I designed it to be a calculator I would want to use. I included all of the most common functions I have used throughout my master’s program.

The ‘Backspace’ is a user-friendly design as it allows the user to execute less-clicks when they make a mistake during their computations. For example, if they were to type two decimals, one right after the other, instead of getting an ‘ERROR’ message and being forced to start all over, all the user has to do is click the ‘Backspace’ in order to correct their calculation.

I have also colored coded all of the functions that need to be followed by a pair of parenthesis. The trigonometric functions are in teal, and the other functions requiring parenthesis are also colored in different colors.

The ‘Exit’ button is small and colored red in order for the user to think twice before clicking the push button. The red color is to tell them to stop, similar to a stop sign.

The ‘AC’ button is colored black in order to represent a void, like a black hole.

All of the numbers are colored grey in order to let the user know they are pressing a button that includes a number and every other function that DOES NOT require a pair of parenthesis is colored in white.

Finally, when creating a computation the entire computation will appear in the edit text box. For example, if you want to add the square root of 4 to the natural log of pi it would look something like:

sqrt(4) + log(pi)

getting the square root by pressing the yellow ‘sqrt’ button, followed by the left white parenthesis, grey 4, white right parenthesis, and the white ‘+’ button. The last function is the natural log that is engendered by pressing the blue ‘ln’ button followed by a white left parenthesis, white ‘pi’, and a white right parenthesis. Finally, the user clicks the big, white ‘=’ button to get the answer: 3.97316. The square root of 4 is 2 and the natural log of pi is 1.14473.

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| Function | Definition |
| / | Divide |
| \* | Multiply |
| - | Subtraction |
| + | Addition |
| = | Equals, evaluates string |
| . | Decimal |
| Backspace | Removes one character from the string |
| Exit | Closes the calculator |
| AC | Clears the edit text box back to 0 |
| ( | Left parenthesis |
| ) | Right parenthesis |
| sin | Sine function |
| cos | Cosine function |
| tan | Tangent function |
| sqrt | Square root |
| ln | Natural log (will display as ‘Log’) |
| log10 | Log base 10 |
| ^ | Raise to a specified power |
| pi | 3.14159 |
| e | exp(1) in edit text box i.e. Euler’s number (2.71828) |