You are asked to create a GUI for a calculator application.

The calculator should have the following

1. Buttons of all 10 digits
2. Buttons for operations:
   1. +
   2. –
   3. /
   4. \*
   5. =
3. Button for decimal delimiter “.”
4. Button for letter “C” which will reset all operations
5. Label that will display the result

**To get extra credit implement logic for M+, M-, and MRC buttons for multi-step operations.**

Buttons can be clicked by either mouse or optionally by typing the correspondent symbols on a keyboard.

Use the following test cases to validate your application. To get full credit your application should pass all tests below

|  |  |
| --- | --- |
| Input | result |
| . = | 0 |
| . 1 = | 0.1 |
| 1 = | 1 |
| 1 + 1 = | 2 |
| 1 . + 2 = | 3 |
| . + . = | 0 |
| . 5 5 = | 0.55 |
| 1 0 . 5 – 5 = | 5.5 |
| 1 0 . 5 – 5 = = | 5.5 => 0.5 |
| - 2 = | -2 |
| - 2 . 2 + 1 = | -1.2 |
| / = | 0 |
| \* = | 0 |
| + = | 0 |
| - = | 0 |
| 1 + 1 = = | 2 => 3 |
| 5 \* 5 = | 25 |
| 5 \* 5 = = | 25 => 125 |
| 5 \* -5 = | 0 |
| -5\*5= | -25 |
| -5\*-5= | -10 |
| 2/2= | 1 |
| 2./5= | 0.4 |
| 2.5/.5= | 5 |
| 1/0= | Error |
| 8/2==== | 4=>2=>1=>0.5 |
| 1/3= | 0.3333 (need 4 decimals) |
| 2/3= | 0.6667(need 4 decimals) |
| 1+1+1= | 3 |
| 5+6/2= | 5..5 |

5 + 5 = 10 M+ 3\*3=9 M- MRC/3 = .33333