4-Function Calculator

# Functionality

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| Display |
| Shows the number being entered |
| Shows the result of a calculation when a function is pressed(+, -, \*, /, =) |

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| Number Keys (0,1, 2, 3, 4, 5, 6, 7, 8, 9, Decimal point) |
| Adds a digit to the right of the number already on the display |
| Only one decimal point allowed per number |

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| Function Keys (+, -, \*, /, =) |
| The ‘running total’ (accumulator) is updated using the previously entered ‘chosen function’ and the currently displayed number |
| The display value is cleared |
| The updated accumulator value is displayed |
| The current chosen function is stored for later use. (NB ‘=’ is the end of a calculation chain and so the chosen function is non-function) |

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| Clear Last Entry Key |
| Sets the display value to null string |
| Shows the new display value (blank!) |

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| Clear Key |
| Sets the display value to null string |
| Shows the new display value (blank!) |
| Sets the chosen function to null string |
| Sets the accumulator to zero |

# Implementation

1. Create a New Project in Visual Studio– Visual Basic / WPF Application
2. Design the interface – 18 buttons and one Text area. Use appropriate names for each object and choose appropriate ‘text’ on each button .
3. Suggested variables:
   1. display – A string that is used to construct the number being entered
   2. accumulator – A double precision number that contains the ‘running total’ of the functions and numbers entered
   3. chosenFunction – Remembers the last function entered
4. Behind each number button add code to add the digit to the variable ‘display’
5. Behind each function key and the equals key add code to:
   1. calculate the result of the number that has just been input and the previous function key that was selected
   2. store the function selected for use later
6. Behind the CE key add code to clear the display variable and the display area
7. Behind the Clear key add code to clear the display variable, clear the display area, clear the last chosen function and reset the accumulator