

# Selection-Sort Visualiser

## Readme

Check the reset button and initialize that with False !!!

Hitting the sort button will first check the conditions:

- 1: Size of array is provided or not.
- 2: Array elements are provided or not.
- 3: one of the ascending or the descending button is checked (Ascending) but if Reset is pressed that check will be unchecked!

Declared a Decimal variable named numCheck and initialized with the user entered size of array.

Declared an integer variable named n and initialized that with 0.

Declared a string variable named trim\_string and initialized it with trim (Array elements)

Declared a string variable named pattern which checks number of white spaces in the array input if more than one white space is there then trim that!!

Declared a decimal Array named enteredNum of length (stringarr.length-1)

Declared a buttoned array from system.windows.forms.button this is for the visualization part (Array).

In the for loop, we build a buttoned array for visualization part then we checked the data (is that in limit provided by visual basic), then we build bars of each data one by one and collected all of them in one single graph. In that loop only we allotted the dimensions and position to the buttoned array and the complete graph.

Continuing to the visualization part we implemented the selection sort and for each iteration, as the algorithm searches for minimum/maximum (according to which radio button is checked) we animate that effect in the buttoned array and the graph with the colors having specific meaning for eg. Red nodes refer to the value which is compared to the next remaining nodes. (similar is for the graph).

A proper time delay of 0.45sec is declared for each step so that user can easily understand the step and can see what is going on in the code.

After the completion of animation the buttoned array and the graph will be disappeared and the final output will be displayed in the output box.

If Reset is pressed between the sorting process the visualization part and sorting both will stop and all the input boxes will be cleared.

If user presses the exit button that will eventually shuts the program.

Private sub textbox1\_keypress/textbox2\_keypress:

If entered data is not integer or decimal will lead to a message box containing the WARNING.

If string is empty again leads to message box!!

Sub Delay:

Function that adds the time delay to each of the comparison step and also the swapping one!