SortApp

Program for sorting input array using different algorithms (bubble, insertion, selection, quick sort). Program is developed on the .NET platform (WPF) using MVVM pattern.

UI consist of 3 main part.

"TextBox" for inputting original array, which will be sorted. During sorting field is invisible.

"ListBox" using it, user can choose algorithm for sorting.

"DataGrid" grid contains all sorting iterations.

Implemented algorithms

- Bubble sort

  Bubble sort, sometimes referred to as sinking sort, is a simple sorting algorithm that repeatedly steps through the list to be sorted, compares each pair of adjacent items and swaps them if they are in the wrong order. The pass through the list is repeated until no swaps are needed, which indicates that the list is sorted.

- Insertion sort

  Insertion sort iterates, consuming one input element each repetition, and growing a sorted output list. Each iteration, insertion sort removes one element from the input data, finds the location it belongs within the sorted list, and inserts it there. It repeats until no input elements remain.

- Selection sort

  Selection sort is a sorting algorithm, specifically an in-place comparison sort. It has O(n2) time complexity, making it inefficient on large lists, and generally performs worse than the similar insertion sort. Selection sort is noted for its simplicity, and it has performance advantages over more complicated algorithms in certain situations, particularly where auxiliary memory is limited.

- Quick sort

  Quicksort is a divide and conquer algorithm. Quicksort first divides a large array into two smaller sub-arrays: the low elements and the high elements. Quicksort can then recursively sort the sub-arrays.