

ABSTRACT

for coursework, student Roman Ternavskiy, group XA-41
on discipline "Computer technologies and programming" on the topic of
"Development of the project for the studying of sorting algorithms"

After analyzing the task, the means necessary for its implementation were determined. In the coursework, five sorting algorithms have been studied: bubble, selection, insertion, gnome and Shell. Studies were carried out by sorting matrix rows in ascending order of their smallest elements. The development environment Visual Studio 14.0 was used. A project that includes 9 forms and one module was developed. The program allows user to sort square matrixes of any size (up to 500 items) with chosen method. The sorting time and the number of swaps for the selected methods can be researched. The results of sorting and research are displayed in the table and chart respectively. The program provides an opportunity to record that data in a file.

The performance of each method and the dependence of the efficiency on the length of the array were studied. It is shown that among the studied methods the most effective is selection. Based on the obtained results it has the best sorting time and number of swaps on arrays of any size.

In addition, the possibilities for developing user interface of such controls as OpenFileDialog i SaveFileDialog, ComboBox, DataGridView, Panel were discovered.