

ABSTRACT

for coursework, student Uliana Stefanishyna 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, six sorting algorithms have been studied: insertion, Shell, bubble, selection, quick and cocktail. Studies were carried out by both linear arrays of custom size (set by the user), and by sorting matrix rows in ascending order of average values of their elements. The development environment Visual Studio 6.0 was used. A project that includes 21 forms was developed. The program allows user to sort matrixes of any size (up to 100x100 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 graph respectively. The program provides an opportunity to record that data in a file. Each form has a reference with detailed instructions for the user.

The performance of each method and the dependence of the efficiency on the type and length of the array were studied. It is shown that Shell and quick are the most effective among the studied methods. Based on these results it was concluded that the quick and Shell are unstable and their performance depends on the array elements.

In addition, the possibilities for developing user interface of such controls as Microsoft FlexGrid, TextBox, PictureBox and Menu Edition were discovered.