ABSTRACT

for coursework, student Botvynko Tamara, 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: insertion, Shell, bubble, selection and merge. Studies were carried out by sorting matrix rows in decreasing order of their average element values. The development environment Visual Basic 6.0 was used. A project that includes 23 forms 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. Sort results are displayed both numerically and graphically (charts with dependence of sorting time and number of swaps on array size and diagrams with sorting time and number of swaps for each sorting method). The program has a standard menu, which provides the ability to run the project again, close the project and view help on how to sort, etc.

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 Shell, because it takes little time to sort and the number of swaps is not too high.

In addition, the possibilities for developing user interface of such controls as «MenuEditor», «Timer», «Image», «FlexGrid», «SStab», «MSChart» and «WindowsMediaPlayer» were discovered.