ABSTRACT

for coursework, student Anton Tesenchuk, 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, bubble, selection, Shell, quick. Studies were carried out by both linear
arrays of custom size (set by the user), and by sorting matrix columns in
descending order of their the smallest elements. The development environment
Visual Basic 6.0 was used. A project that includes 11 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. 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. Each form has a reference with detailed instructions for the user.

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 quick sort. Based on the obtained results it was inferred that the
quick sort method is less dependent on the length of the array and is generally
more stable.

In addition, the possibilities for developing user interface of such controls as
TextBox, Label, MSFlexGrid, PictureBox, CommandButton, OptionButton,
CheckBox, Marchoso were discovered.