



THE USE OF MACROS IN THE VISUAL BASIC FOR APPLICATIONS (VBA) PROGRAMMING LANGUAGE IN THE MICROSOFT OFFICE PROGRAM PACKAGE

Mirzakhmedova Nargiza Dilmurodovna

TSPU named after Nizami

Senior teacher of the Department of Mathematics and TAT

Article history:	Abstract:
Received: September 26 th 2023 Accepted: October 26 th 2023 Published: November 30 th 2023	In all programs of the Office package, we have to perform dozens of actions of different styles several times, or we have to repeat them many times. In order to avoid such confusion and to use time effectively, we use macros. In our article, it was mentioned what tasks macros should perform in the Office program.
Keywords: Electronic government, macros, telecommunication infrastructure, professional activity, programming languages, Visual Basic for Application (VBA)	

Today, the wide introduction of modern information and communication technologies in all spheres of society and state administration activities and their effective use, realization of the constitutional rights of citizens to receive information, ensuring the openness of the activities of state administration bodies, and the rapid implementation of the "electronic government" system, large-scale works are being carried out in all regions of our country regarding the modernization of telecommunication infrastructure, data transmission networks.

The tasks of family educational institutions in the implementation of these tasks deserve special attention. A number of works have been carried out to provide necessary regulatory documents, modern equipment and technologies for the Oily education system. In particular, by the decision of the Cabinet of Ministers of the Republic of Uzbekistan, the state educational standards of educational directions and specialties of higher educational institutions were approved. As it was shown in them, the requirements for the graduates of family educational institutions are basic sciences and theoretical and practical knowledge within the scope of the profession, the ability to use computers and telecommunication tools, and the necessary knowledge of academic subjects. tasked to be.

Computer and information technologies require a certain level of special training for communication from their users. How perfect this preparation is determines the quality of communication. Solving this problem has become one of the most pressing issues facing computer science and its teaching methodology in primary, secondary and higher education systems.

Any problem that can be solved with the help of a computer requires the development of a special program. The uneconomical development of programs with the help of "old" programming tools, as well as the complexity of the program development process, creates the need for new programming languages. This issue is solved by experienced programmers or programming teams. Educating and bringing up such programmers, effectively organizing the process of teaching them the necessary information (basics of programming, programming languages, information technologies, etc.) so that they can use them in their future professional activities according to their needs was considered the main task.

Programming languages have not stopped developing. Today, the form, structure and principles of data representation are completely different from the previous ones, and new programming languages with much richer possibilities have been formed and are developing due to new versions that have a number of advantages over the previous ones. In addition, VBA is included in the Office package. Below we will discuss why the Visual Basic for Applications (VBA) programming language is used in Microsoft Office applications.

In all programs of the Office package - it can be Word, Excel or Power Point, we have to perform dozens of actions in different styles several times a day, or repeat them many times. Basically, these are the formatting of individual parts of the text, the execution of several menu commands in a row, formatting in a special way.

In order to avoid such confusion and to use time effectively, we use macros. Of course, there is an Office repeat (povtarit vvod) command, which can be used to repeat the last actions. This is very convenient, but only one action is repeated with this command. If you need to repeat several commands, this command is not correct.

What to do in such cases?

Practically any repetitive task and confusing work can be automated. An automated task like this can be done immediately. A command can be selected with a single button press or a single click on the toolbar.

These actions can be performed using the macro command. A macro consists of a list of actions, in which there is an instruction to perform an action, which is not much different from a coded recipe. Macros Macro commands tell you what tasks to perform in an Office program to achieve a specific goal. A macro combines all actions into one scenario. A list of instructions consists of macro commands that are automatically combined to form a macro. Some operators are self-explanatory in their naming and describe what they do. The peculiarity of VBA programming language is that it is much easier than other programming languages. Macros are written using Visual Basic. It is assigned to a button. All information is collected, we will touch on this topic below.

A macro in MS Access is a sequence of operations. They are stored in a window reminiscent of the table in such a way that they are stored in the order in which they should be performed. These actions are performed when the MS Access macro is run. Macros make using Access much easier. Macros are useful for binding buttons on forms. Operations can be performed using these buttons. Macros can be used to create custom add-ons and dialog boxes.

The use of macros in the Visual Basic for Applications (VBA) programming language in the applications of the Microsoft Office software package is a separate, unique topic in the study of computer science. On the one hand, macro programming in VBA creates many opportunities that cannot be achieved using standard tools of office applications (for example, on the keyboard, when converting characters when typing in Russian text Latin case in Word, or conducting interactive tests in PowerPoint presentations). However, on the other hand, studying this topic is very complicated. That's why this topic is often avoided in educational literature (or, at least, it is limited to describing how to perform simple entries in macros as a sequence of user actions with menus, buttons and other elements of the interface). At the same time, it is very difficult to find the literature on macro programming, so very few users know how to use this convenient and universal mechanism for completing the functionality of office applications.

Macroprogramming in VBA can be one of the current subjects of computer science in educational institutions, including the continuation (or expansion) of the subject of programming in Visual Basic. Also, while VBA is a bit unique, Visual Basic programming can serve as an always-on environment for learning purposes (and custom programming environments can be purchased and installed separately). will need to be installed).

At the same time, the examples given in Visual Basic for Applications are in some cases very unique, because even the built-in help description (Help) does not describe the relevant material clearly enough, so some programming methods were found experimentally by the authors.

REFERENCES:

1. Marco Fioretti lubit svobodnoe PO. Makrosy: Office automation. <http://www.linuxformat.ru/download/189.pd>
2. Fokin N.B., statya «Obosnovanie effektivnosti ispolzovaniya Oblachnx texnologiy», <http://journal.itmane.ru/node/649>
3. Murzin F.A. «oblachne texnologii: osnovne modeli, prilozheniya, kontseptsii i tendentsii razvitiya» , 2016.
4. Mednov S. «Oblachnye vychisleniya» <http://www.4cio.ru/pages/index/129>.
5. SHirokova E. A. «Oblachnye texnologii», 2011.
6. <https://www.youtube.com/watch?v=uWDvnTNQTmY>
7. <https://fayllar.org/suniy-intellekt-v7.html>
8. <https://www.geeksforgeeks.org/difference-between-cloud-computing-and-grid-computing/>
9. <https://www.geeksforgeeks.org/difference-between-cloud-computing-and-fog-computing/?ref=rp>
10. <https://learn.microsoft.com/ru-ru/office/vba/library-reference/concepts/getting-started-with-vba-in-office>