

# Macros in Excel

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**Abstract.** Excel itself has very powerful functions: including printing documents, file processing, formatting and text editing; Excel has a large number of built-in functions, its operation interface is very familiar to the public, and can connect to a variety of databases. Therefore, it has become a widely used application development platform. For a task that needs to be repeated frequently in Excel, you can record all the steps of executing these tasks in the macro and turn the macro into an automatically executable task. In this way, it is unnecessary to repeat the operation, save a lot of manpower and improve the work efficiency. Today, I will study the relevant knowledge of Excel macros with you.

## 1 Introduction

Excel Macro refers to a series of operation instructions written with Excel's built-in programming language VBA (Visual Basic for applications) and can run in Excel environment. Macro is a tool to automatically complete repetitive work. It can help you automatically complete repetitive and batch tasks. As long as you can use Excel, you can learn to record and use macros to improve work efficiency. Next, step by step, teach you how to record a simple macro and run it!

## 2 Open development tools

To record and manage macros, you need to use the developer tab in the main menu. By default, Excel does not display this tab, which needs to be customized. Right click any blank area in the functional area, as shown in Fig. 1. Select "Customize the Ribbon..." in the pop-up menu to open the "Excel options" dialog box, as shown in Fig. 2.

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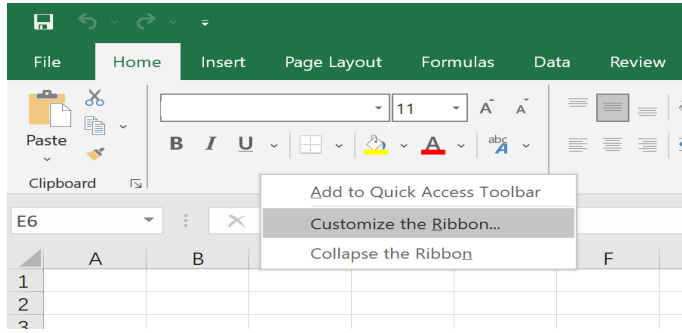


Fig. 1. User defined function area.

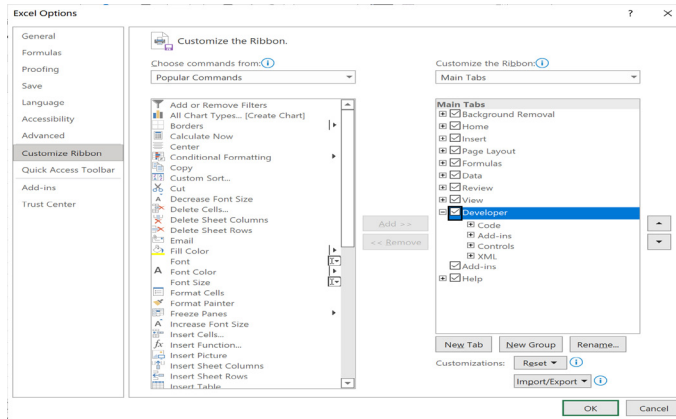


Fig. 2. Excel Options dialog box.

On the right side of the "Excel options" dialog box in the tab list, find the "Developer " and check it. Click OK. Then you can see the " Developer" in the main menu of Excel, as shown in Fig. 3.

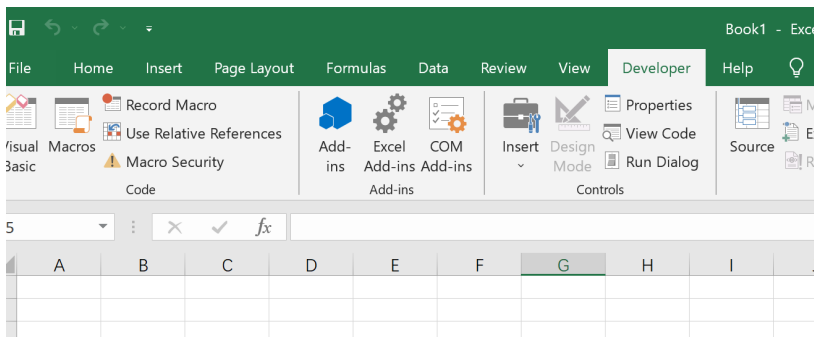
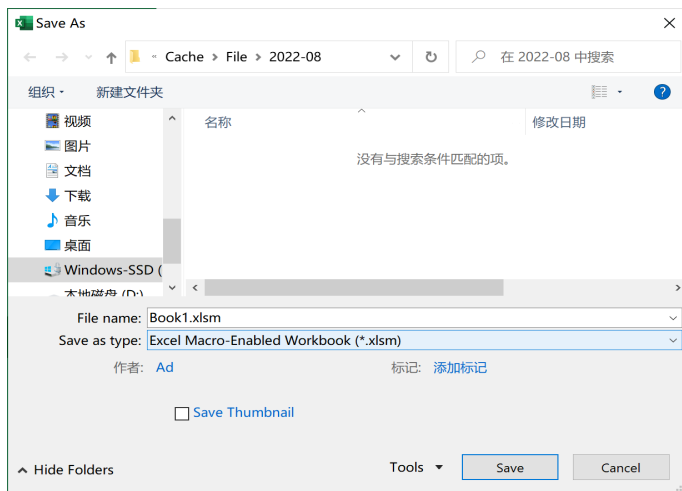


Fig. 3. Opening the development tool.



**Fig. 4.** Saving a workbook with macros.

### 3 Saving and opening workbooks containing macros

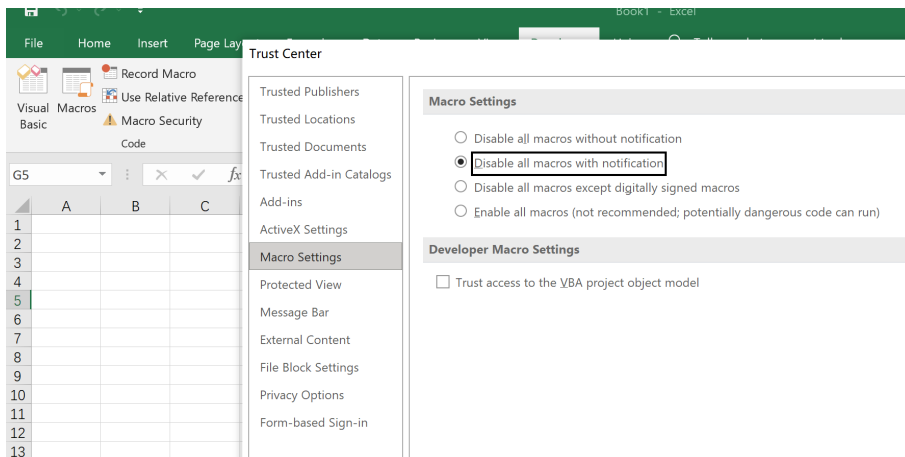
#### 3.1 Save workbooks containing macros

Workbooks containing macros must be saved to the correct file type, otherwise macros cannot be used at the next startup.

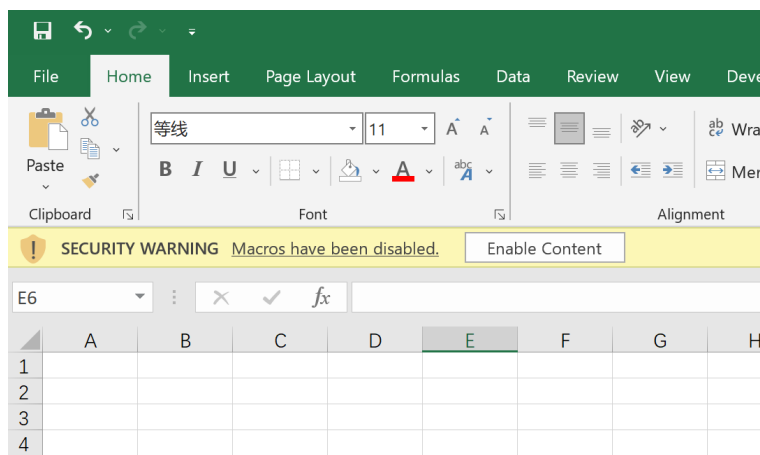
The saving steps are as follows: click the "file" command, select the "save as" command in the menu, and in the pop-up "save as" dialog box, select "Excel Macro-Enabled Workbook(\*.xslm)" in the save type list, as shown in Fig. 4, and click save. Workbooks with macros have the extension .xslm (workbooks without macros have a .xlsx extension).

#### 3.2 Opening workbooks containing macros

Generally, excel does not start the macro file by default when starting. In order to run the macro recorded by yourself, you must start the macro. The first thing let's look at how to set macro security in Excel. First click the "Macro Security" command in the development tool menu. In the pop-up "Trust Center" dialog box, as shown in Fig. 5, generally set the "Macro Settings" to "Disable all macros with notification". Then when we open the file, a security warning will appear as shown in Fig. 6. Click "Enable Content" to open the required macro and also avoid the startup of macro virus.



**Fig. 5.** Macro setting dialog box.

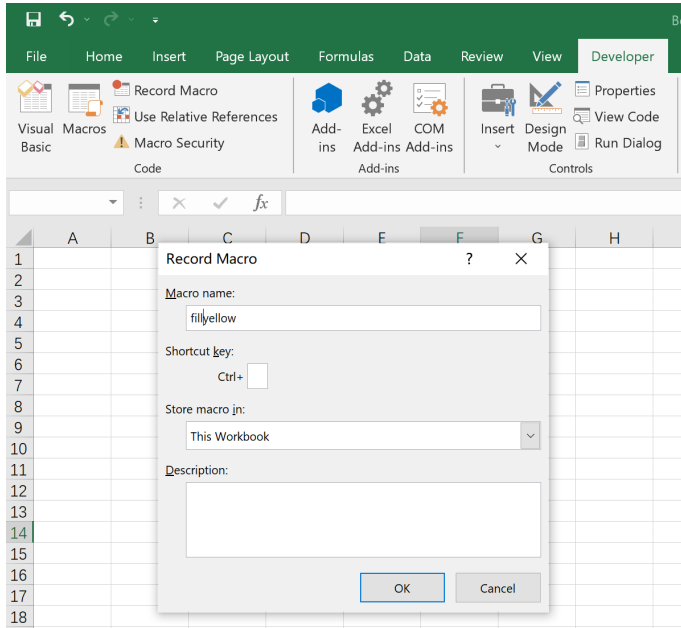


**Fig. 6.** Enabling content.

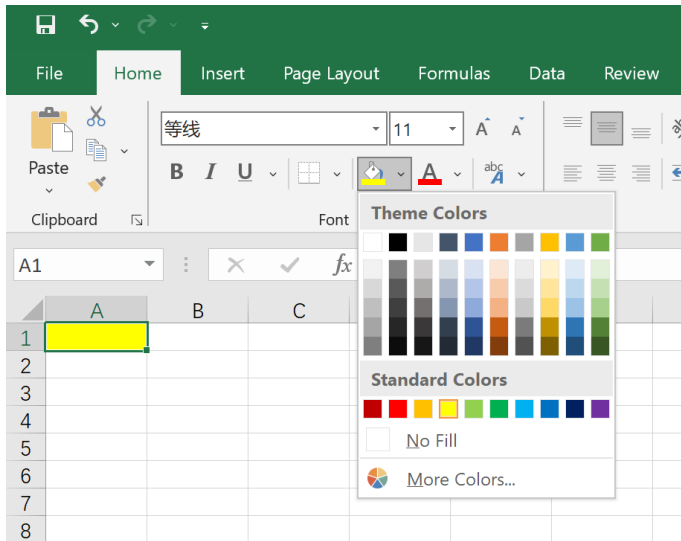
## 4 Record macro

So how to record macro files in excel? Let's take the operation of setting the background color of a selected area to yellow as an example to see the macro recording.

First select the data area, such as cell A1, and then click the "Record Macro" button in the Developer tool tab. In the pop-up dialog box, enter the macro name "fillyellow", specify the shortcut key, select save in "This Workbook", and fill in the necessary instructions, as shown in Fig. 7. Click OK to start recording.



**Fig. 7.** Recording macros.



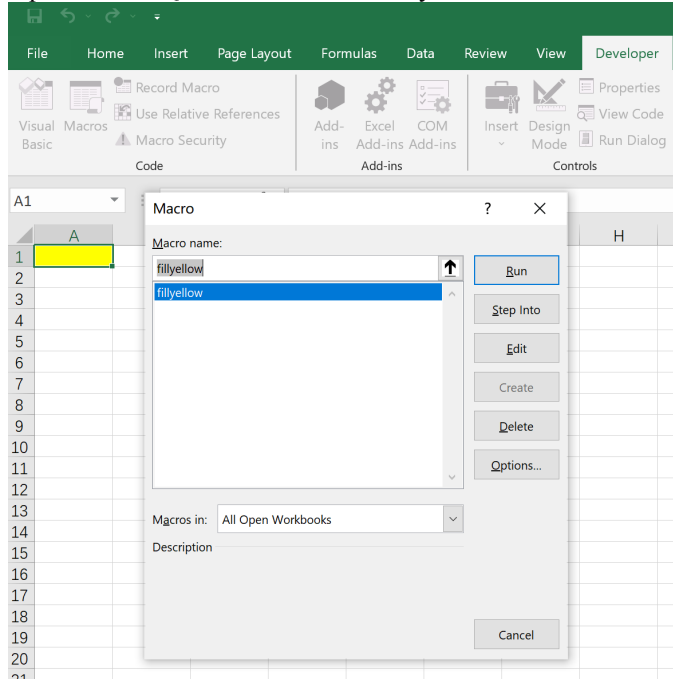
**Fig. 8.** Fill yellow background.

According to the normal operation, click the fill menu item in the start menu and select the yellow to fill it, as shown in Fig. 8. Note: in this step, do not use the mouse to reselect the data area. Click the "Stop Recording" button in the function area to stop recording. By this time, the macro recording is completed.

## 5 Run recorded macros

After the macro filled with yellow is recorded successfully, you can run this macro when you use it in the future. For example, select an area, click the view macro menu item, or


press Alt + F8 to open the macro manager as shown in Fig. 9, select the fillyellow macro, and click "Run". If we set shortcut keys in Fig. 7, such as Ctrl + Q. Then select the area you want to fill, and press Ctrl + Q to set the selection to yellow fill.



**Fig.9.**Macro Manager

## 6 View macro code

After macro recording is completed, VBA code will be generated automatically, so Excel can be controlled to automatically run the recording operation. By viewing these VBA statements, we can understand the basic knowledge of VBA programming and lay a foundation for subsequent learning of VBA programming. It can also be modified on the basis of this code to generate a program with more complete functions.

Click the button  in the development tool tab or press Alt + F11 to open the VBA editor, as shown in Fig. 10. You can see the code fillyellow macros in the code window.

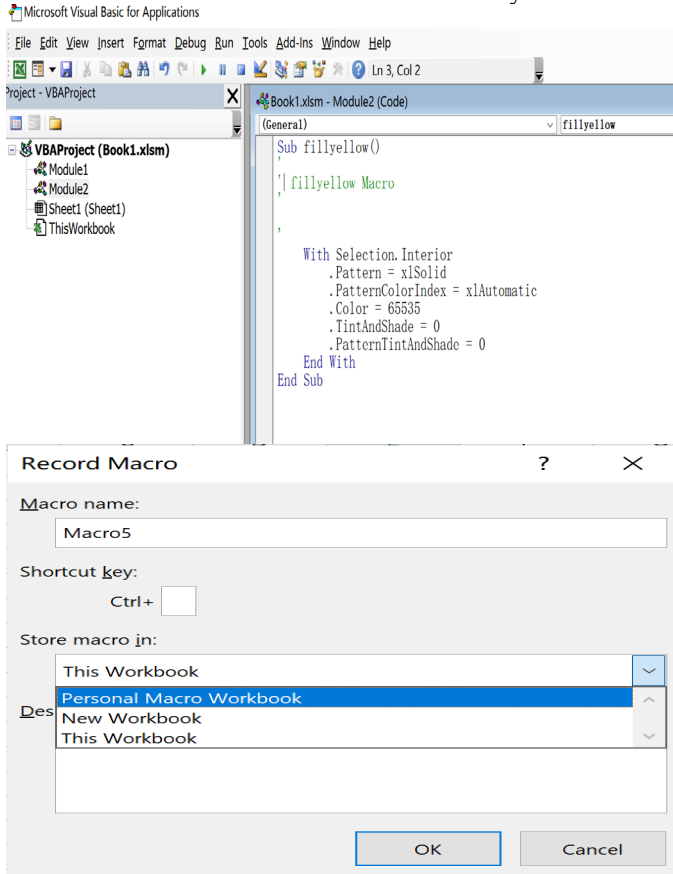
## 7 Where to save the macro

In Excel, macros can be saved in three possible locations:

1. This Workbook (this macro is available only when the workbook is open)
2. New Workbook (create a workbook to save)
3. Personal Macro Workbook

Personal macro workbook is a special Workbook with automatic hiding feature designed for macros. If you want a macro to be used in a lot of workbooks, you should create a personal macro workbook and save the macro in it. When recording a macro, select "personal macro Workbook" from the drop-down list of "save in" in Fig. 11, and a macro

named personal will be automatically generated a macro workbook named personal.xlsm. The macros in this workbook can be used in any workbook.



**Fig.10.**VBA editor macro Workbook

**Fig.11.**Saving to personal

### Matters needing attention

1. In Excel, if you want to save and run macros in a workbook, you must save them as a macro enabled workbook file type.
2. When recording this step of a macro, do not use the mouse to reselect the data area.

## References

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