Excel VBA: Learn Excel VBA Programming in 1 Day

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Chapter 1: Introduction to Macros in Excel

As humans, we are creatures of habit. There are certain things that we do on a daily basis every working day. **Wouldn't it be better if there were some magical way of pressing a single button and all of our routine tasks are done? I can hear you say yes**. In a nutshell, a macro is the magical single click button.

What is a macro?

A macro is a piece of programming code that runs in Excel environment and helps automate routine tasks. **In a layman's language, a macro is a recording of your routine steps in Excel that you can replay using a single button.**

The importance of macros in Excel

Let's say you work as a cashier for a water utility company. Some of the customers pay through the bank and at the end of the day, you are required to download the data from the bank and format it in a format that meets your business requirements.

You can import the data into Excel and format. The following day you will be required to perform the same ritual. It will soon become boring and tedious. **Macros solve such problems by automating such routine tasks**. You can use a macro to record the steps of

- Importing the data
- Formatting it to meet your business reporting requirements.

What is VBA in a layman's language?

VBA is the acronym for Visual Basic for Applications. It is a programming language that Excel uses to record your steps as you perform routine tasks. You do not need to be a programmer or a very technical person to enjoy the benefits of macros in Excel. Excel has features that automatically generated the source code for you. Read the article on Vba for more details.

Macro Basics

Macros are one of the developer features. By default, the tab for developers is not displayed in excel. You will need to display it via customize report

Macros can be used to compromise your system by attackers. By default, they are disabled in excel. If you need to run macros, you will need to enable running macros and only run macros that you know come from a trusted source

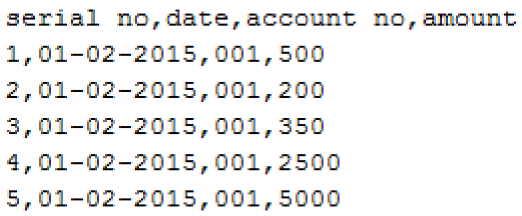
If you want to save macros, then you must save your workbook in a macro-enabled format *.xlsm

The macro name should not contain any spaces.

Always fill in the description of the macro when creating one. This will help you and others to understand what the macro is doing.

Step by step example of recording macros in Excel

We will work with the scenario described in the importance of macros excel. We will work with the following CSV file.



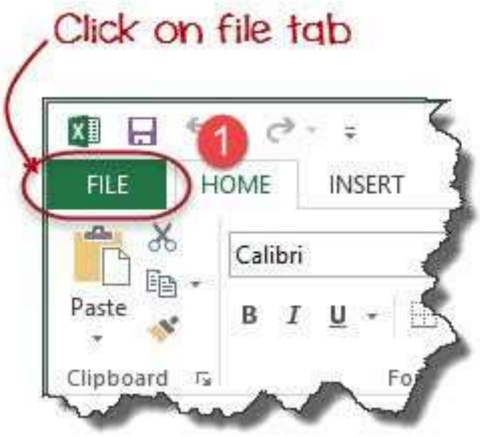
```
serial no,date,account no,amount
1,01-02-2015,001,500
2,01-02-2015,001,200
3,01-02-2015,001,350
4,01-02-2015,001,2500
5,01-02-2015,001,5000
```

We will create a macro enabled template that will import the above data and format it to meet our business reporting requirements.

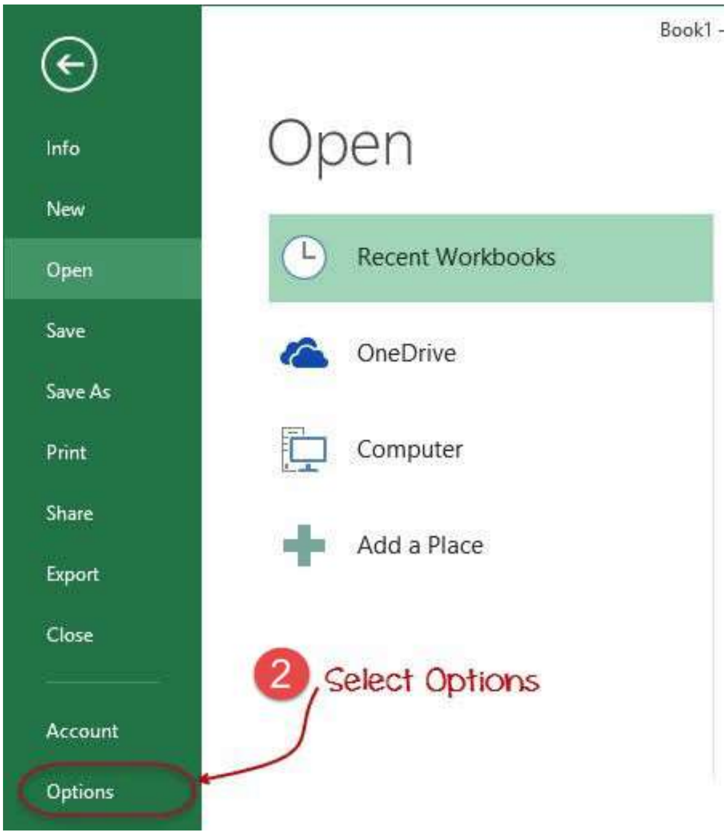
Enable Developer Option

To execute VBA program, you have to have access to developer option in Excel. Enable the developer option as shown below and pin it into your main ribbon in Excel.

Step 1) Go to main menu "FILE" and selection option "Options."



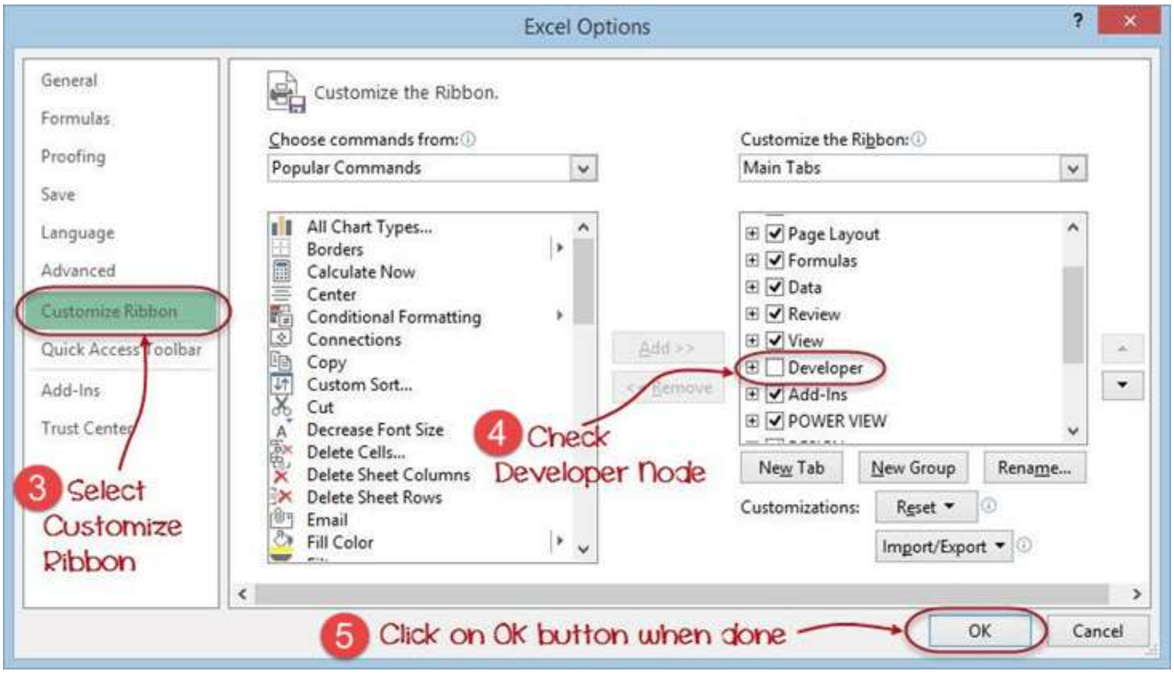
Step 2) Select "Options" from the menu list as shown in screen shot below.



2 Select Options

Step 3) Now another window will open, in that window do following things

- Click on Customize Ribbon
- Mark the checker box for Developer option
- Click on OK button

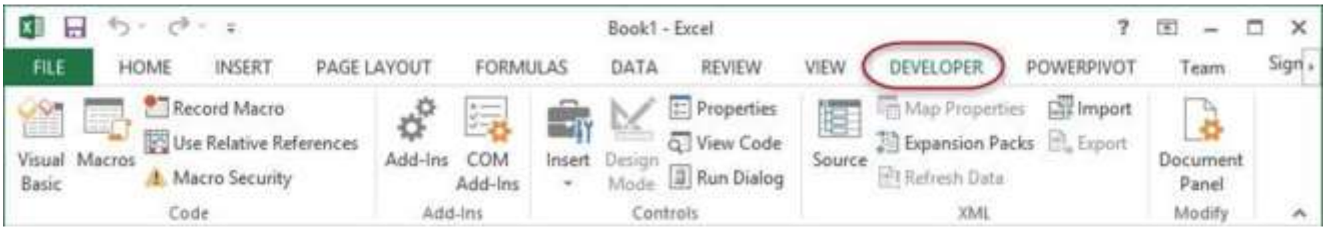


3 Select Customize Ribbon

4 Check Developer Node

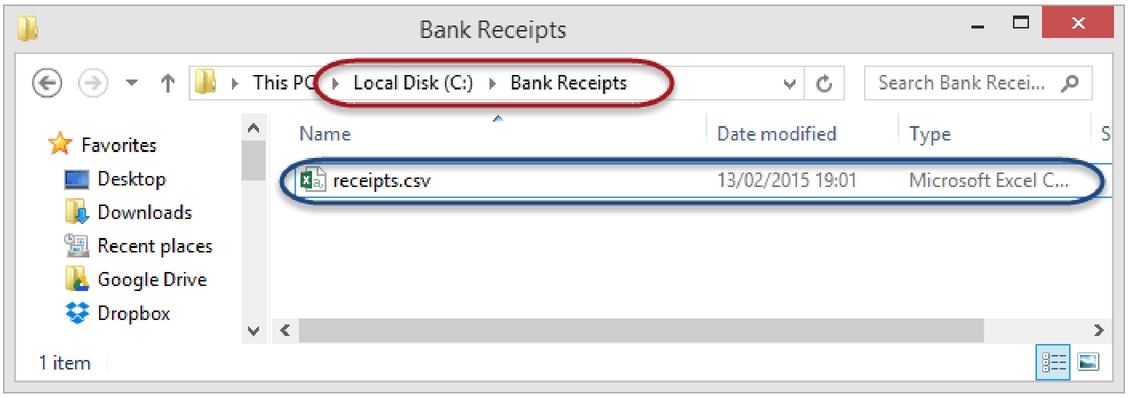
5 Click on OK button when done

Step 4) You will now be able to see the DEVELOPER tab in the ribbon



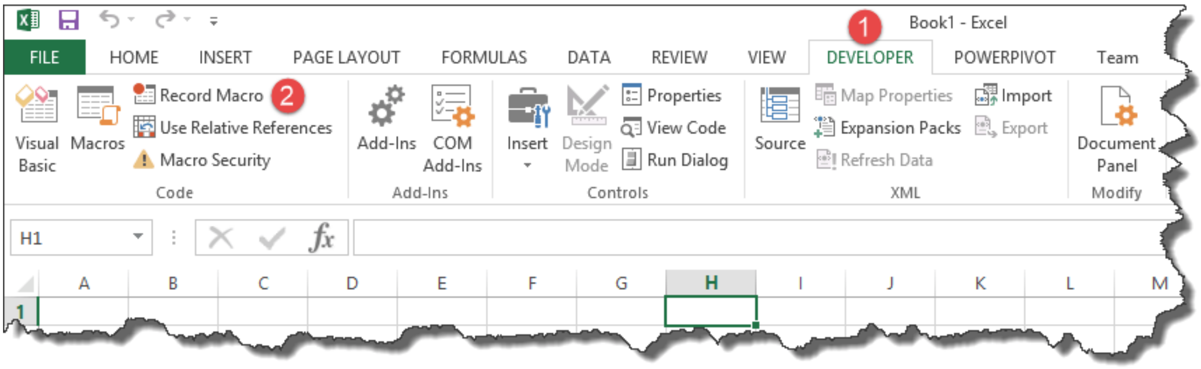
First, we will see how we can create a command button on the spreadsheet and execute the program.

- Create a folder in drive C named Bank Receipts
- Paste the receipts.csv file that you downloaded

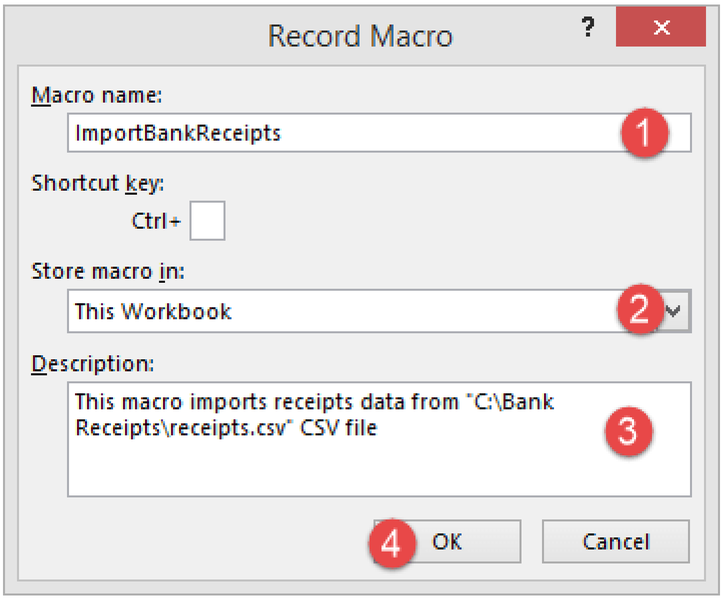


receipts.csv 13/02/2015 19:01 Microsoft Excel C...

1. Click on the DEVELOPER tab
2. Click on Record Macro as shown in the image below



You will get the following dialogue window



Record Macro

Macro name: ImportBankReceipts

Shortcut key: Ctrl+

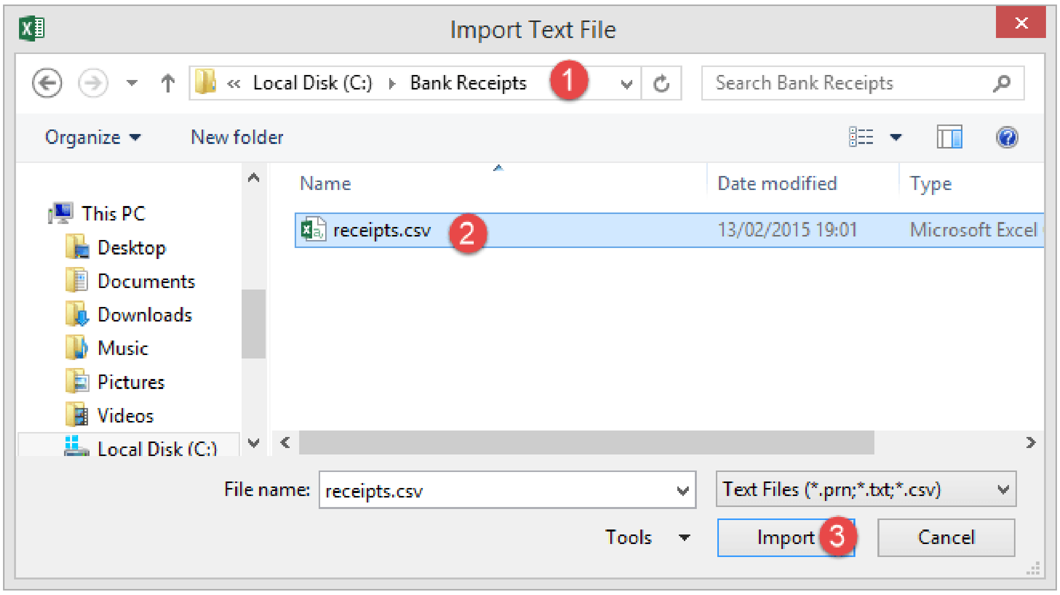
Store macro in: This Workbook

Description: This macro imports receipts data from "C:\Bank Receipts\receipts.csv" CSV file

1. Enter ImportBankReceipts as the macro name.
2. Step two will be there by default
3. Enter the description as shown in the above diagram
4. Click on "OK" tab

- Put the cursor in cell A1
- Click on the DATA tab
- Click on From Text button on the Get External data ribbon bar

You will get the following dialogue window



Import Text File

« Local Disk (C:) › Bank Receipts

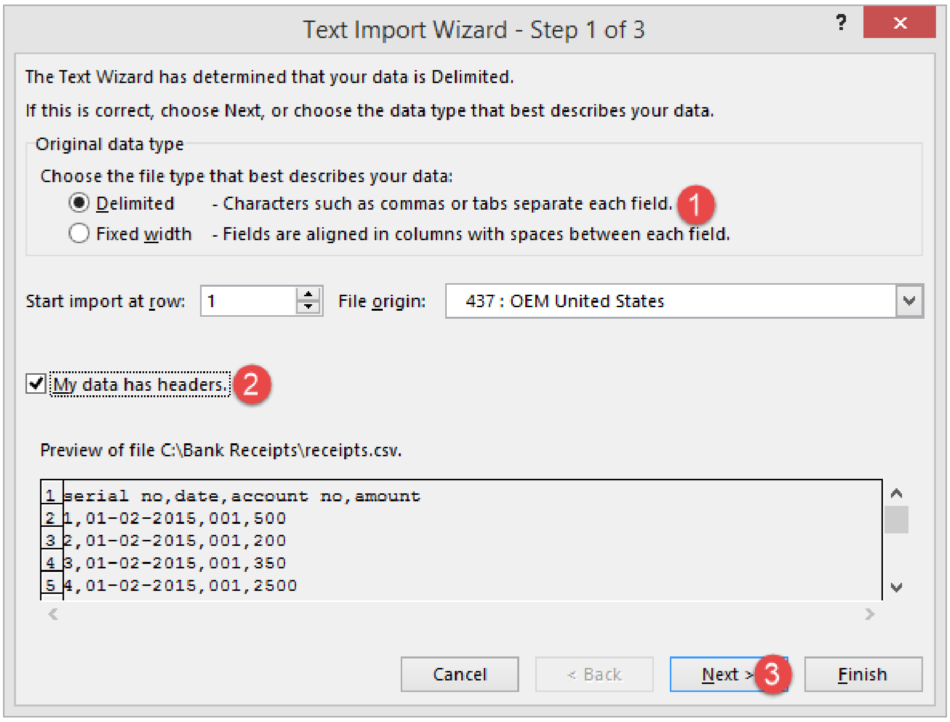
Name	Date modified	Type
receipts.csv	13/02/2015 19:01	Microsoft Excel

File name: receipts.csv

Text Files (*.prn;*.txt;*.csv)

- Go to the local drive where you have stored the CSV file
- Select the CSV file
- Click on Import button

You will get the following wizard



Text Import Wizard - Step 1 of 3

The Text Wizard has determined that your data is Delimited.

If this is correct, choose Next, or choose the data type that best describes your data.

Original data type

Choose the file type that best describes your data:

● Delimited - Characters such as commas or tabs separate each field. 1

○ Fixed width - Fields are aligned in columns with spaces between each field.

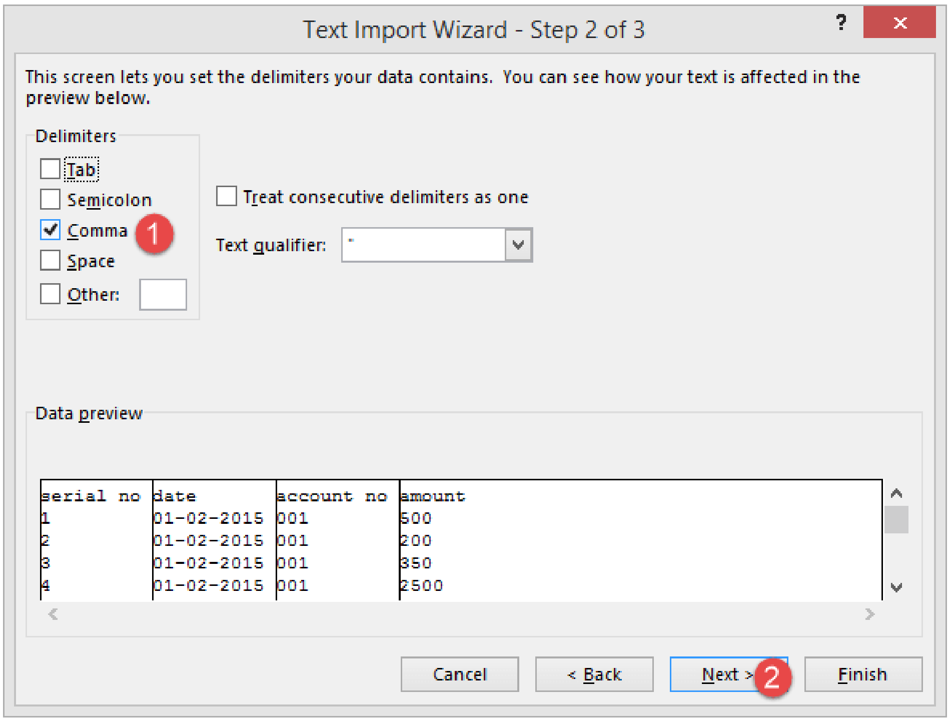
Start import at row: 1 File origin: 437 : OEM United States

☑ My data has headers. 2

Preview of file C:\Bank Receipts\receipts.csv.

```
1 serial no,date,account no,amount
2 1,01-02-2015,001,500
3 2,01-02-2015,001,200
4 3,01-02-2015,001,350
5 4,01-02-2015,001,2500
```

Click on Next button after following the above steps



Text Import Wizard - Step 2 of 3

This screen lets you set the delimiters your data contains. You can see how your text is affected in the preview below.

Delimiters

□ Tab

□ Semicolon

☑ Comma 1

□ Space

□ Other:

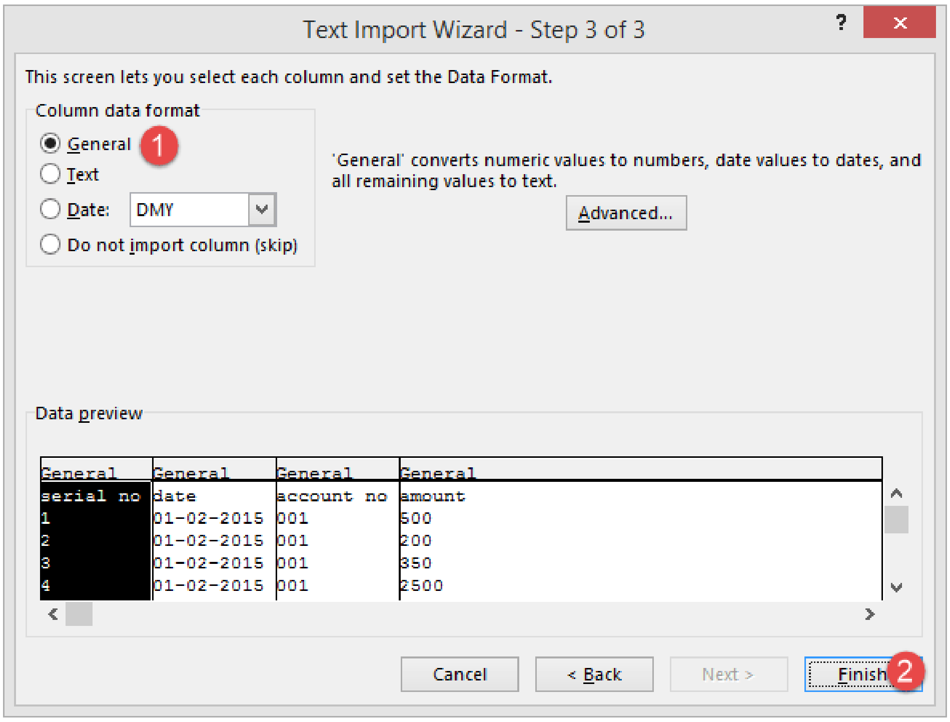
□ Treat consecutive delimiters as one

Text qualifier: "

Data preview

```
serial no date       account no amount
1         01-02-2015 001        500
2         01-02-2015 001        200
3         01-02-2015 001        350
4         01-02-2015 001        2500
```

Follow the above steps and click on next button



Text Import Wizard - Step 3 of 3

This screen lets you select each column and set the Data Format.

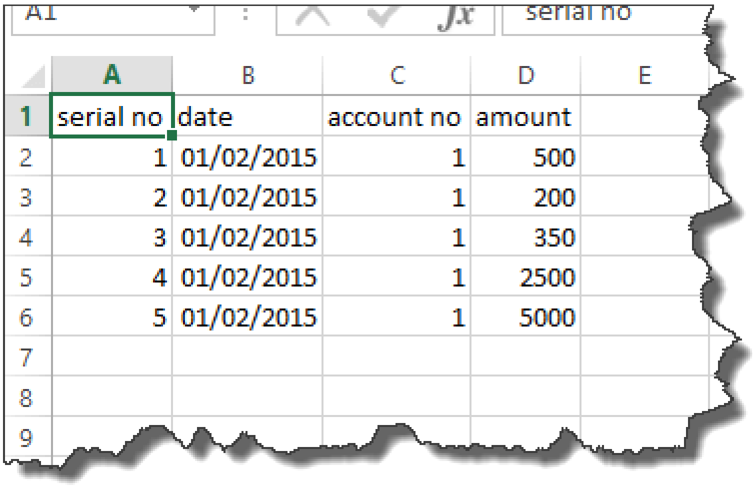
Column data format

- ● General 1
- ○ Text
- ○ Date: DMY
- ○ Do not import column (skip)

'General' converts numeric values to numbers, date values to dates, and all remaining values to text.

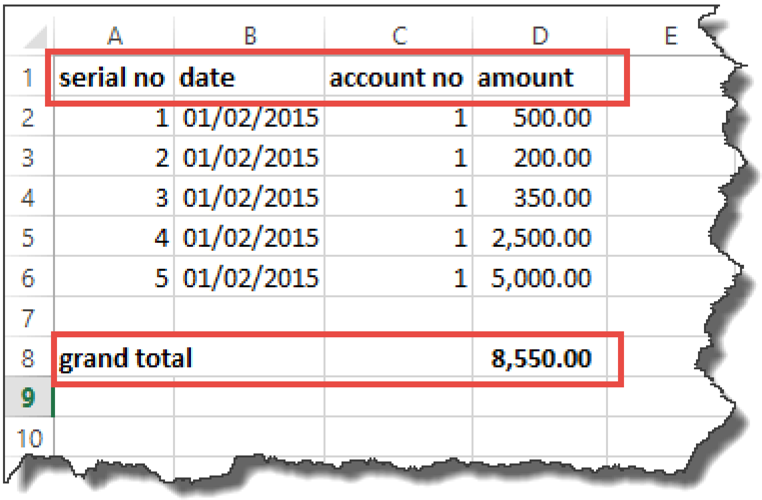
General	General	General	General
serial no	date	account no	amount
1	01-02-2015	001	500
2	01-02-2015	001	200
3	01-02-2015	001	350
4	01-02-2015	001	2500

- Click on Finish button
- Your workbook should now look as follows



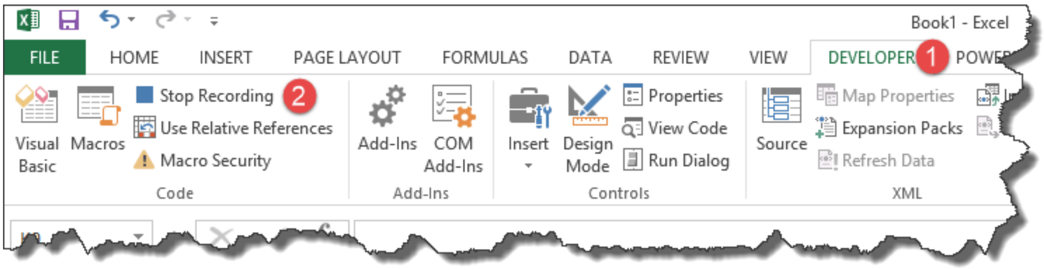
	A	B	C	D	E
1	serial no	date	account no	amount	
2	1	01/02/2015	1	500	
3	2	01/02/2015	1	200	
4	3	01/02/2015	1	350	
5	4	01/02/2015	1	2500	
6	5	01/02/2015	1	5000	
7					
8					
9					

Make the columns bold, add the grand total and use the SUM function to get the total amount.



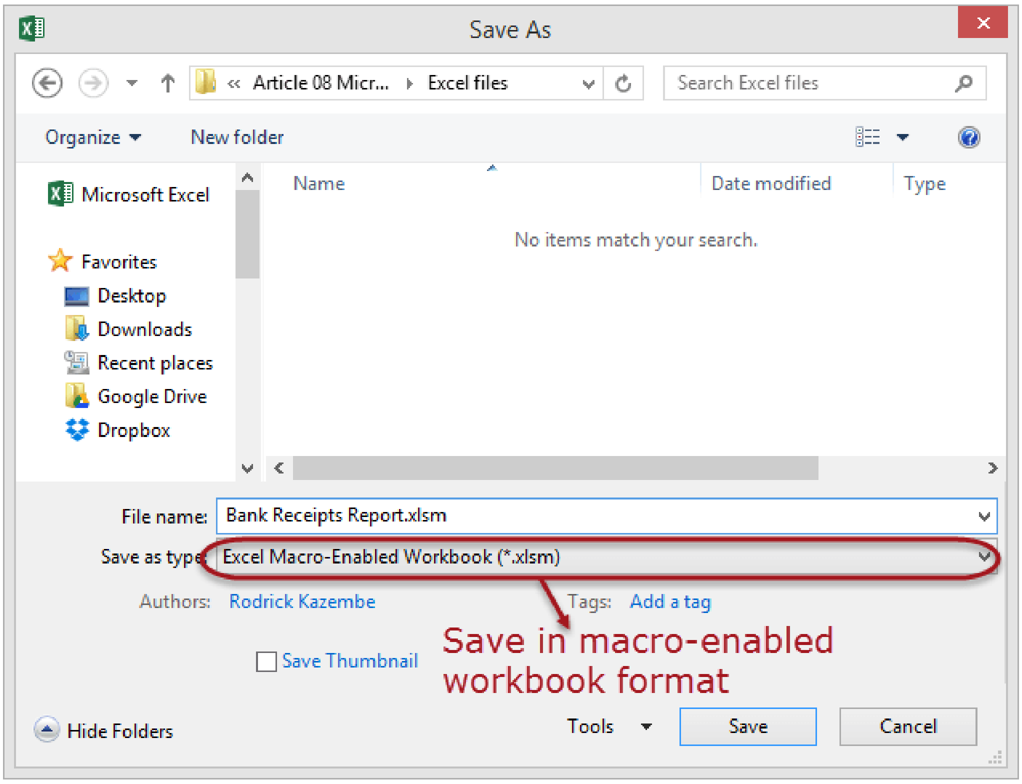
	A	B	C	D	E
1	serial no	date	account no	amount	
2	1	01/02/2015	1	500.00	
3	2	01/02/2015	1	200.00	
4	3	01/02/2015	1	350.00	
5	4	01/02/2015	1	2,500.00	
6	5	01/02/2015	1	5,000.00	
7					
8	grand total			8,550.00	
9					
10					

Now that we have finished our routine work, we can click on stop recording macro button as shown in the image below



Before we save our work book, we will need to delete the imported data. We will do this to create a template that we will be copying every time we have new receipts and want to run the ImportBankReceipts macro.

- Highlight all the imported data
- Right click on the highlighted data
- Click on Delete
- Click on save as button
- Save the workbook in a macro enabled format as shown below



No items match your search.

File name: Bank Receipts Report.xlsm

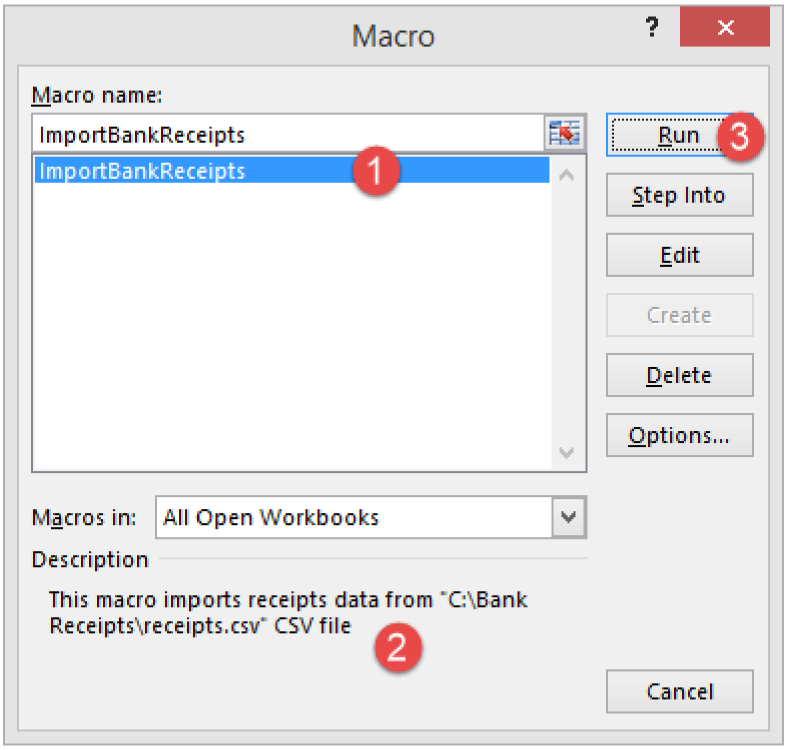
Save as type: Excel Macro-Enabled Workbook (*.xlsm)

Authors: Rodrick Kazembe

Save in macro-enabled workbook format

- Make a copy of the newly saved template
- Open it
- Click on DEVELOPER tab
- Click on Macros button

You will get the following dialogue window



Macro name: ImportBankReceipts

ImportBankReceipts

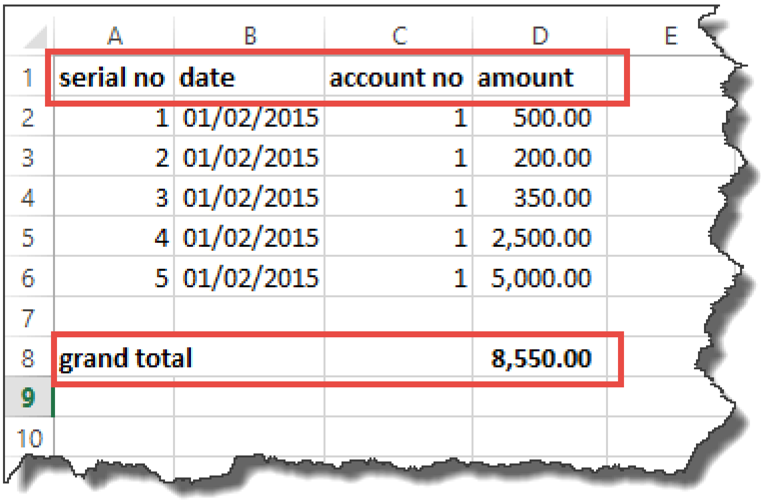
Macros in: All Open Workbooks

Description

This macro imports receipts data from "C:\Bank Receipts\receipts.csv" CSV file

1. Select ImportBankReceipts
2. Highlights the description of your macro
3. Click on Run button

You will get the following data



	A	B	C	D	E
1	serial no	date	account no	amount	
2	1	01/02/2015	1	500.00	
3	2	01/02/2015	1	200.00	
4	3	01/02/2015	1	350.00	
5	4	01/02/2015	1	2,500.00	
6	5	01/02/2015	1	5,000.00	
7					
8	grand total			8,550.00	
9					
10					

Congratulations, you just created your first macro in excel.

Summary

Macros simplify our work lives by automating most of the routine works that we do. Macros in Excel are powered by Visual Basic for Applications.