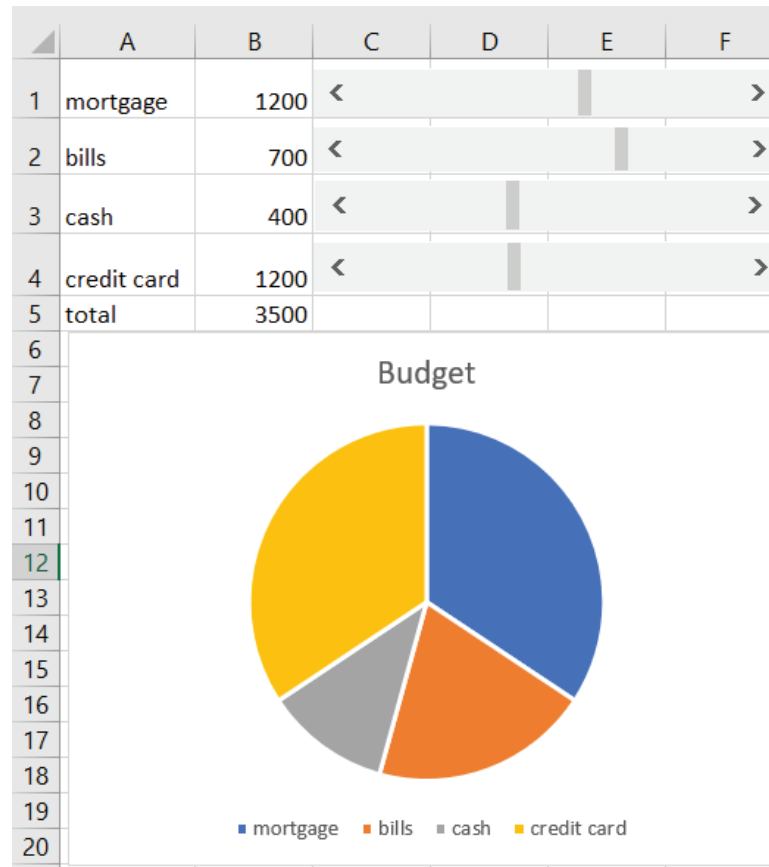


Create Dynamic Graphs in Excel 2016 Using Scroll Bars

This tutorial will guide you to create an Excel 2016 graph for Windows using scroll bars so you can change values in your graph by clicking on a scroll bar. This dynamically updates the graph. Your final product will look something like this if you choose to use a circle graph:



Overview

This tutorial will guide you through the following steps. Each step will be explained in detail as you read through the tutorial.

- 1) Create columns for your data.
- 2) Add the developer tab.
- 3) Draw the scroll bars.
- 4) Format the scroll bars.
- 5) Create the graph.

1) Create columns for your data

First, decide where your data will live. In this example the labels are in column A and the data is in column B. Adjust the height of the rows so the scroll bar will fit next to your data. To adjust the row height, select the rows your data are in by clicking on the "1" that labels the row.

Next, hold down the shift key and click on the other rows. In this example, the selected rows are 1, 2, 3, and 4. *Make sure the entire row is selected and not just the cells that contain the data.* (continued on next page)

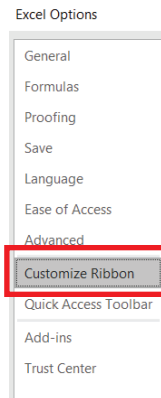
| | A | B |
|---|-------------|------|
| 1 | mortgage | 1200 |
| 2 | bills | 700 |
| 3 | cash | 400 |
| 4 | credit card | 1200 |

1) Create columns for your data con't

After you have selected the rows, right click to bring up the menu. Choose *Row Height* and enter the value 24. Click OK. The row height for these rows should now be 24 points.

2) Add the developer tab

Next it is necessary to add in the developer tab to the ribbon. Go to the *File* tab on the ribbon and select *Options*. Choose *Customize Ribbon*.



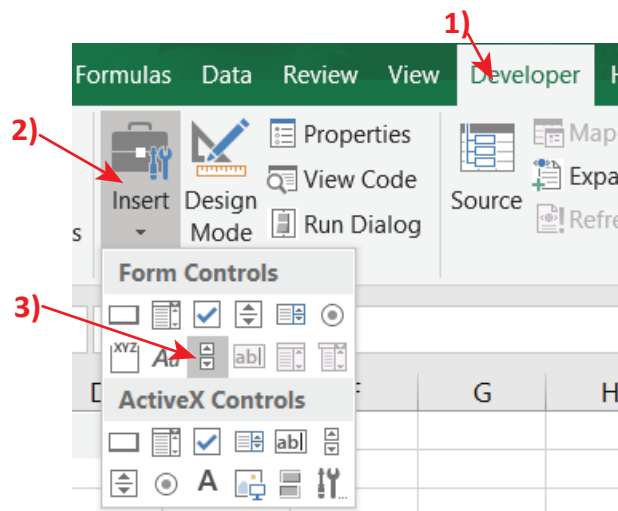
In the dialog box that pops up select the check box next to *Developer*.



3) Draw the scroll bars

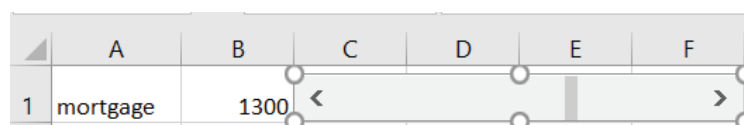
Next, you will add the scroll bar to your worksheet. Look at the steps shown in the diagram below.

- 1) Click on the *Developer* tab in the ribbon.
- 2) Select the *Insert* icon.
- 3) Under *Form Controls* select the *Scroll Bar* icon.



After selecting the scroll bar from the *Form Controls* menu your cursor will turn to a cross hair cursor. This means you are in draw mode and can draw the scroll bar.

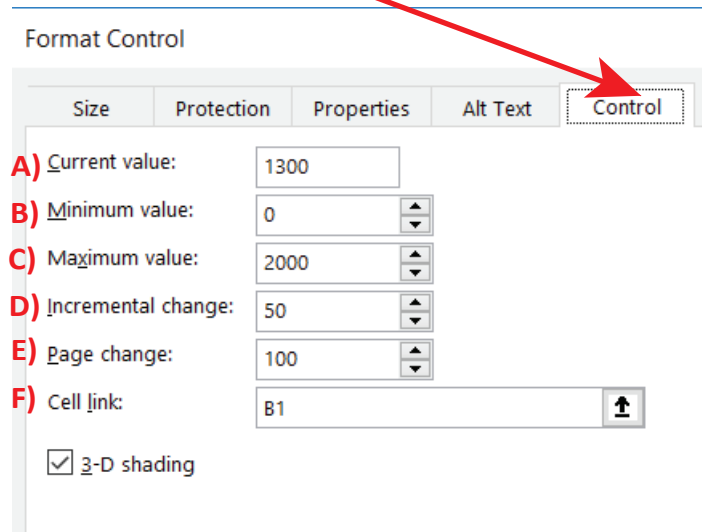
The scroll bar is a rectangle. Draw it to the right of the data which will be in column B. Make it about the width of row 1 and the length should span columns C, D, E, and F. These values are arbitrary however. It will just make it look nice and be next to the data it will control. Your scroll bar should look something like this:



4) Format the scroll bars

Next, you need to format the scroll bar to make it control the value in the cell. Notice the 8 dots surrounding the scroll bar. This means your scroll bar can be edited. If it is not editable, i.e., there are no dots, then you can always right click on it to make it editable. You can click and drag on these dots to change the size and shape of your scroll bar. You can also click and drag on the scroll bar while in edit mode to move the location of the scroll bar.

Right click on the scroll bar to bring up the menu so you can format it. Select *Format Control*. The following dialog box will appear. Make sure the *Control* tab is selected.



Format Control

Size Protection Properties Alt Text **Control**

A) Current value: 1300

B) Minimum value: 0

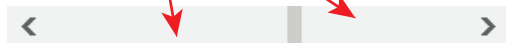
C) Maximum value: 2000

D) Incremental change: 50

E) Page change: 100

F) Cell link: B1

3-D shading

- A) The *Current value* is the value displayed in the cell that the scroll bar controls.
- B) The *Minimum value* is the value that will be displayed when the scroll bar is all the way to the left.
- C) The *Maximum value* is the value that will be displayed when the scroll bar is all the way to the right.
- D) *Incremental change* is the amount the current value will change by when the left or right arrow is clicked.
- E) *Page change* is the amount the current value will change by when the scroll bar is clicked to the right or the left of the bar that controls the current value. For example, clicking here or here increments the value of the cell by the page change amount.
- F) *Cell link* is the location of the cell controlled by the scroll bar.
- 

You will need to consider what values are appropriate to your data. Since this value controls the value in the “mortgage” cell, I have entered the range to be 0 as the minimum and 2000 as the maximum.

Enter in your desired values then click OK. Repeat steps 3) and 4) for each row of your data.

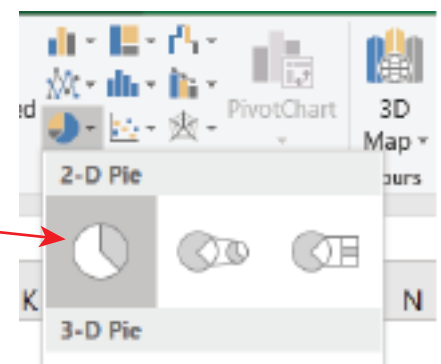
5) Create the graph

Select the cells that contain the labels and your data. In this example the cells I have selected are cells A1:B4.

Click on the *Insert* tab in the ribbon. Select the icon of the type of graph you want. This example uses a circle graph.

Once the graph is selected it will appear in your worksheet.

To change the title of the graph, double click on the words *Chart Title*, then select the words *Chart Title* to edit. Type in the desired title for your graph.

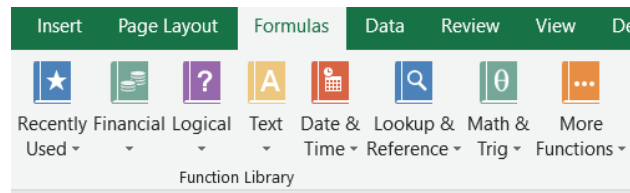


You're done!

You now have a graph that can be controlled using slider bars. To change the values in your graph simply click on the slider bars! If you click on the arrows of the slider bars, the graph will change by the *increment* amount. Clicking on the other parts of the slider will change the value by the *page change* amount.

For Further Investigation: Formulas

In the example on the first page of this guide I have also included a row for the total. This is the sum of the four cells above it. Note that this value is NOT part of the graph. To get this value, in cell B5, the formula `=SUM(B1:B4)` is used. This tells Excel to sum the values in cell B1 through B4. Because the values in B1:B4 are controlled by the scroll bars, changing the scroll bars will change this value too! Excel has many different formulas available. You can explore these formulas using the Formula tab in the ribbon:



For Further Investigation: Charts

There are lots of different ways to format charts. Right clicking on various parts of the graph will bring up menus to your right that allow you to format the chart. Right click on the part of the graph you want to change then select *Format xxx* from the resulting menu. For example if you want to format the chart title, right click on the title and select *Format Chart Title* from the pop-up menu.

However, right clicking does not bring up a way to format the text. To change fonts in the title or in the legend, click on the text in the chart to select it, then go to the *Home* tab on the ribbon and change the font there.

