

# Principles of computers

First stage

Lecture

## Operating System

By

Asst. lecturer Mohammed Qasim Obayes

[mohammed.qasim.obayes@uomus.edu.iq](mailto:mohammed.qasim.obayes@uomus.edu.iq)

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## What is an operating system?

An operating system is the most important software that runs on a computer. It manages the computer's memory and processes, as well as all of its software and hardware. It also allows you to communicate with the computer without knowing how to speak the computer's language. Without an operating system, a computer is useless.

## The operating system's job:

Your computer's operating system (OS) manages all of the software and hardware on the computer. Most of the time, there are several different computer programs running at the same time, and they all need to access your computer's central processing unit (CPU), memory, and storage. The operating system coordinates all of this to make sure each program gets what it needs.

## Types of operating systems:

Operating systems usually come pre-loaded on any computer you buy. Most people use the operating system that comes with their computer, but it's possible to upgrade or even change operating systems. The three most common operating systems for personal computers are Microsoft Windows, macOS, and Linux.

Modern operating systems use a graphical user interface, or GUI (pronounced gooey). A GUI lets you use your mouse to click icons, buttons, and menus, and everything is clearly displayed on the screen using a combination of graphics and text.



**Figure 1**

Each operating system's GUI has a different look and feel, so if you switch to a different operating system it may seem unfamiliar at first. However, modern operating systems are designed to be easy to use, and most of the basic principles are the same.

## Microsoft Windows:

Microsoft created the Windows operating system in the mid-1980s. There have been many different versions of Windows, but the most recent ones are Windows 10 (released in 2015), Windows 8 (2012), Windows 7 (2009), and Windows Vista (2007). Windows comes pre-loaded on most new PCs, which helps to make it the most popular operating system in the world.



**Figure 2**

## macOS:

macOS (previously called OS X) is a line of operating systems created by Apple. It comes preloaded on all Macintosh computers, or Macs. Some of the specific versions include Mojave (released in 2018), High Sierra (2017), and Sierra (2016).

According to StatCounter Global Stats, macOS users account for less than 10% of global operating systems—much lower than the percentage of Windows users (more than 80%). One reason for this is

that Apple computers tend to be more expensive. However, many people do prefer the look and feel of macOS over Windows.

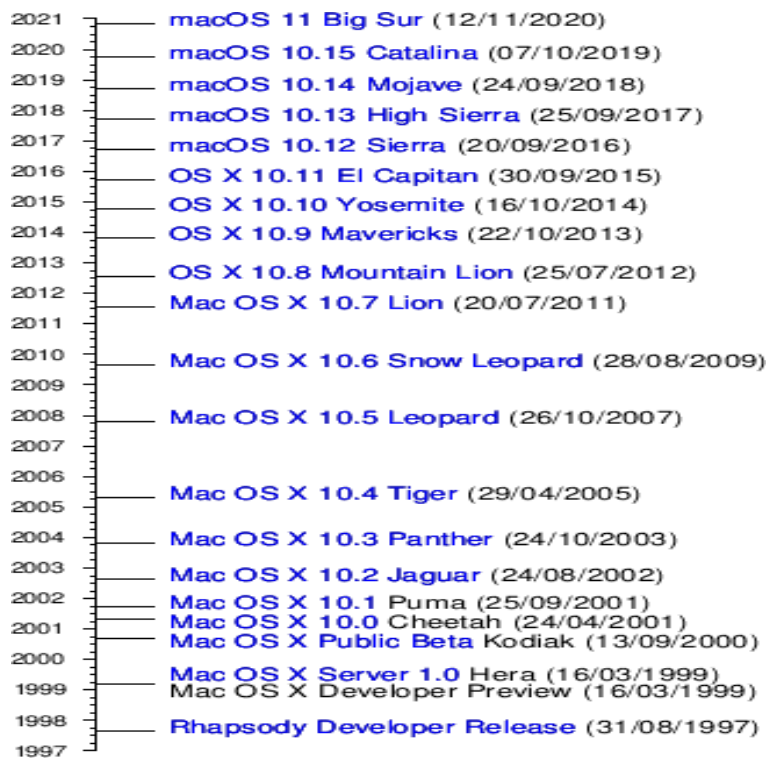


Figure 3

## Linux:

Linux (pronounced LINN-ux) is a family of open-source operating systems, which means they can be modified and distributed by anyone around the world. This is different from proprietary software like Windows, which can only be modified by the company that owns it. The advantages of Linux are that it is free, and there are many different distributions—or versions—you can choose from.

According to StatCounter Global Stats, Linux users account for less than 2% of global operating systems. However, most servers run Linux because it's relatively easy to customize.

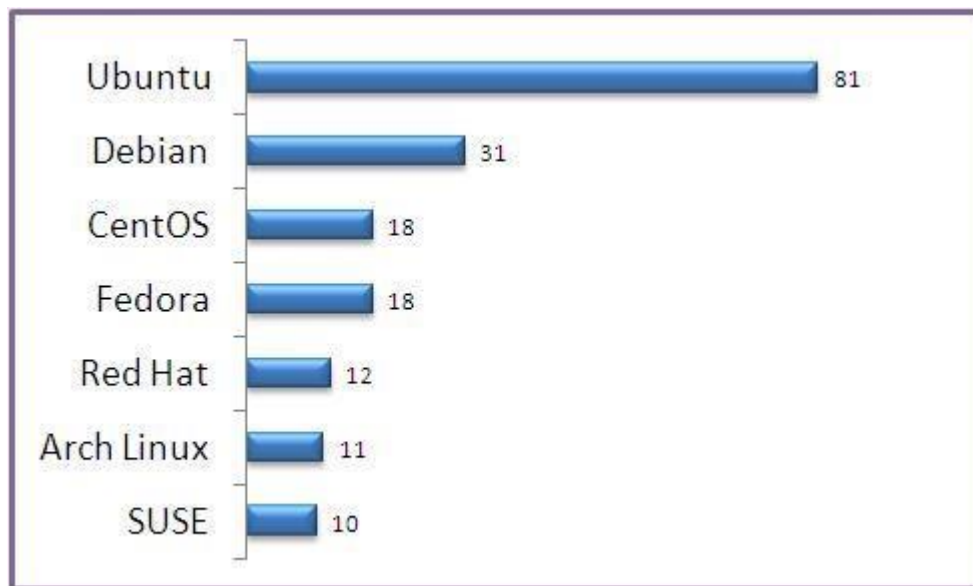


Figure 4

## Operating systems for mobile devices:

The operating systems we've been talking about so far were designed to run on desktop and laptop computers. Mobile devices such as phones, tablet computers, and MP3 players are different from desktop and laptop computers, so they run operating systems that are designed specifically for mobile devices. Examples of mobile operating systems include Apple iOS and Google Android.

Operating systems for mobile devices generally aren't as fully featured as those made for desktop and laptop computers, and they aren't able to run all of the same software. However, you can still do a lot of things with them, like watch movies, browse the Web, manage your calendar, and play games.



Figure 5

## Working with files:

Understanding how to work with files and folders is an important part of using your computer. Once you understand how files and folder work, you'll use them all the time.

## What is a file?

There are many different types of files you can use. For example, Microsoft Word documents, digital photos, digital music, and digital videos are all types of files. You might even think of a file as a digital version of a real-world thing you can interact with on your computer. When you use different applications, you'll often be viewing, creating, or editing files.

Files are usually represented by an icon. In the image below, you can see a few different types of files below the Recycle Bin on the desktop.

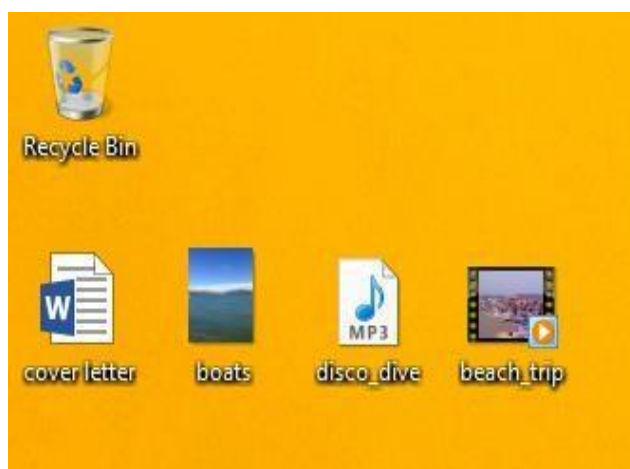


Figure 1: Files

## What is a folder?

Windows uses folders to help you organize files. You can put files inside a folder, just like you would put documents inside a real folder. In the image below, you can see some folders on the desktop.

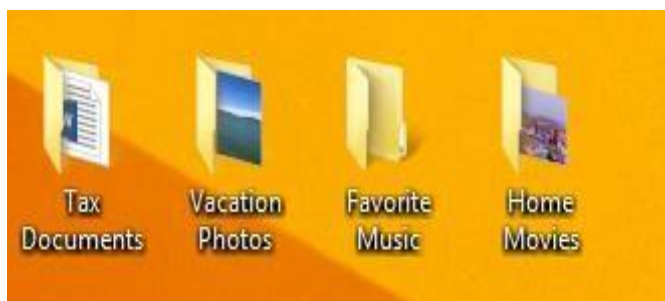


Figure 2: Folders

## File Explorer:

You can view and organize files and folders using a built-in application known as File Explorer (called Windows Explorer in Windows 7 and earlier versions).

To open File Explorer, click the File Explorer icon on the taskbar, or double-click any folder on your desktop. A new File Explorer window will appear. Now you're ready to start working with your files and folders.



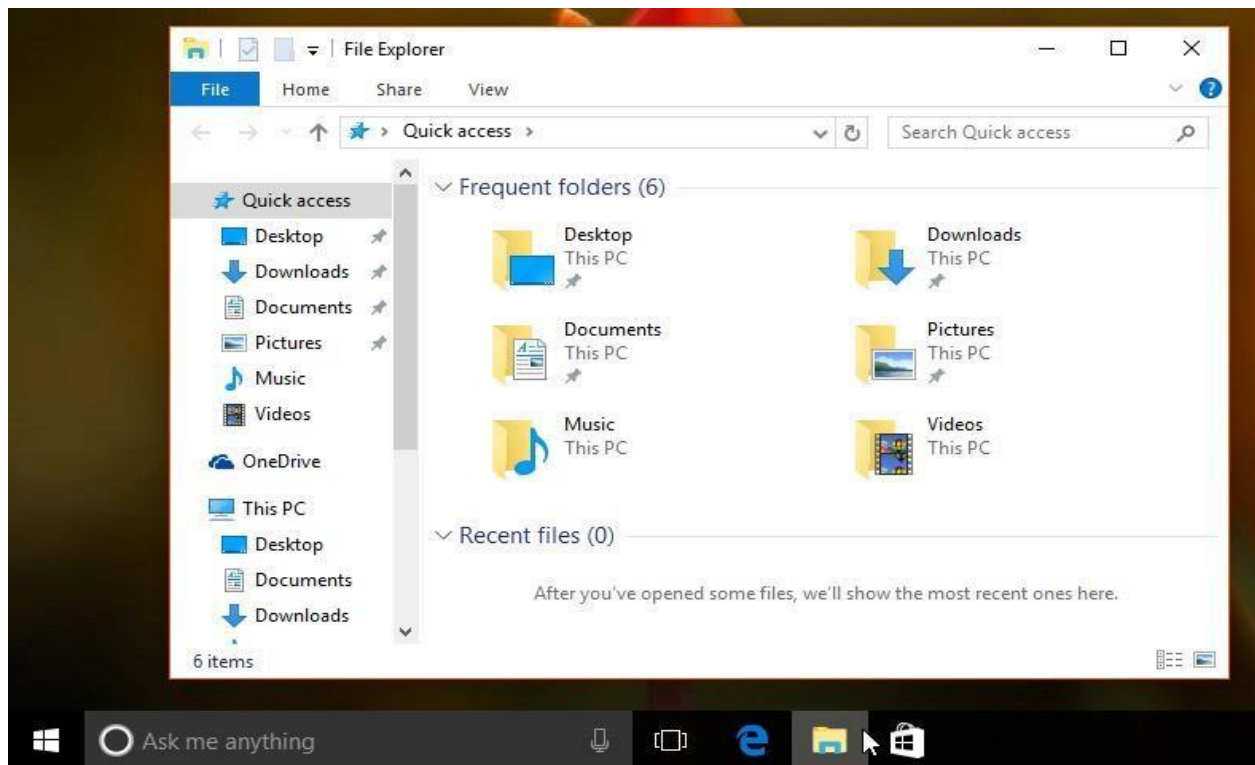


Figure 3: File explorer

From File Explorer, double-click a folder to open it. You can then see all of the files stored in that folder.

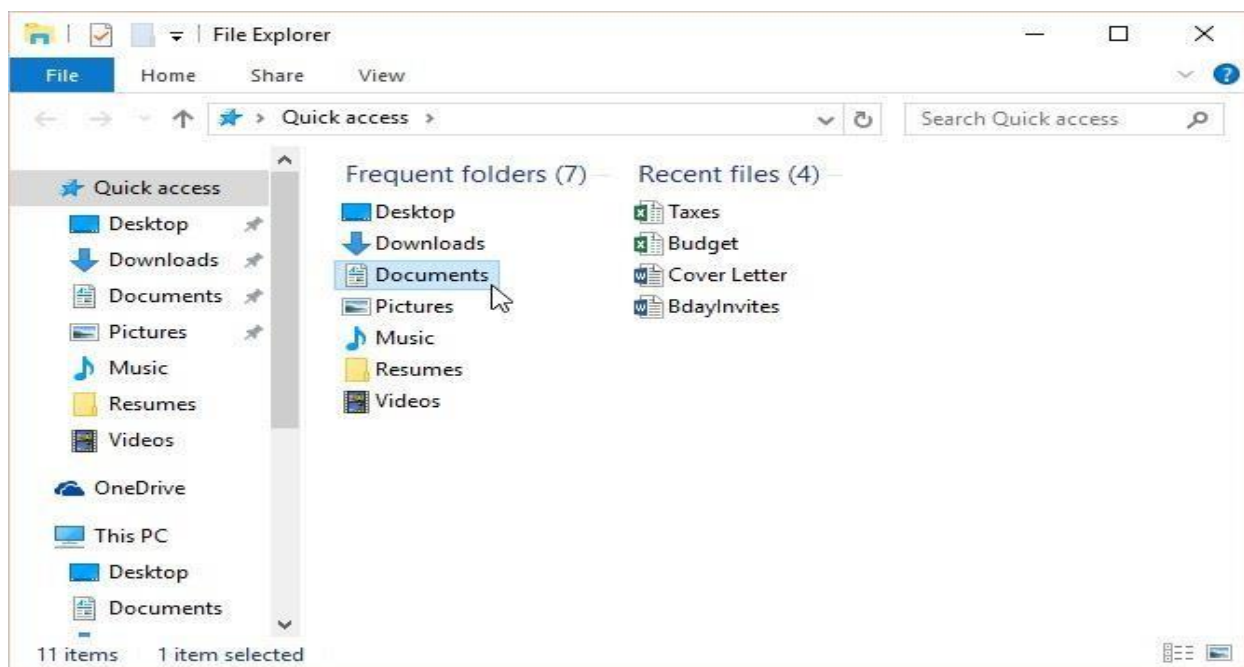


Figure 4: File explorer

Notice that you can also see the location of a folder in the address bar near the top of the window.

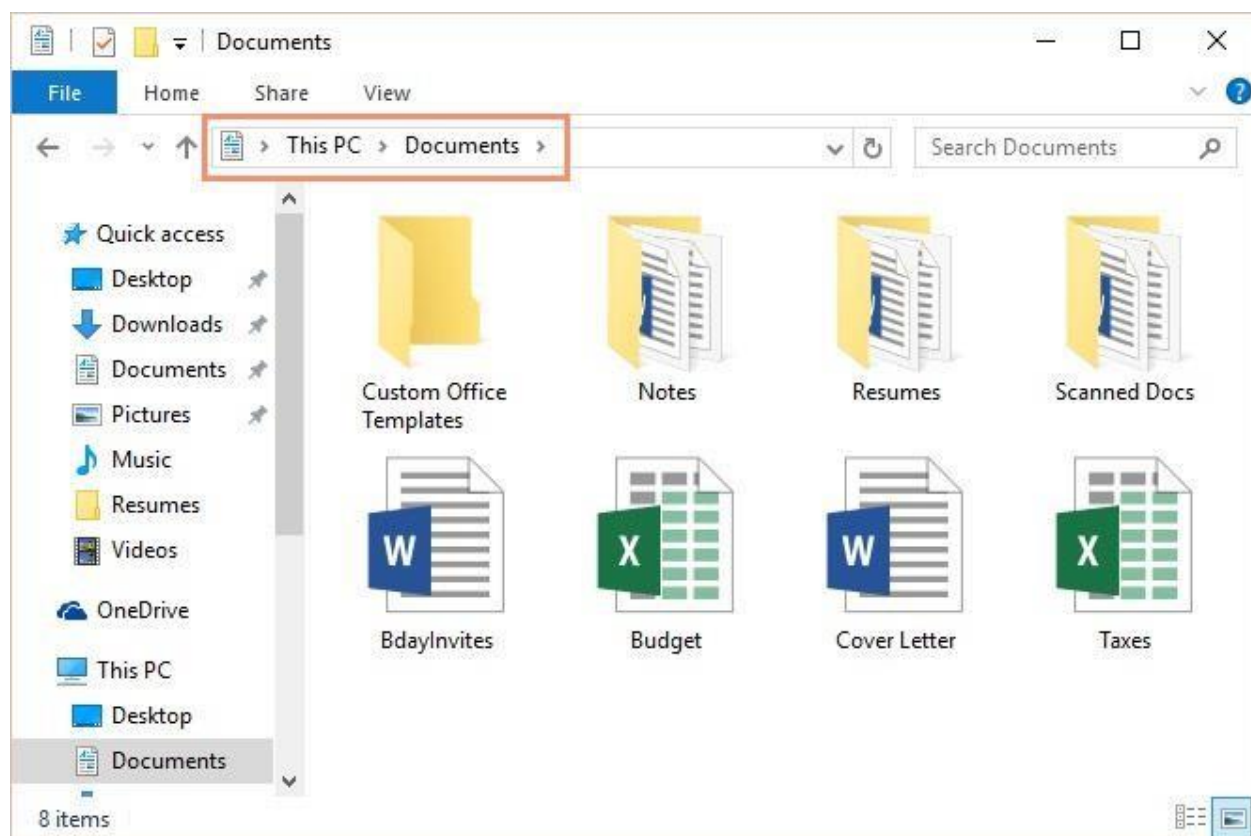


Figure 5: the location of a folder

## To open a file:

**There are two main ways to open a file:**

- 1- Find the file on your computer and double-click it. This will open the file in its default application. In our example, we'll open a Microsoft Word document (BdayInvites.docx), which will open in Microsoft Word.

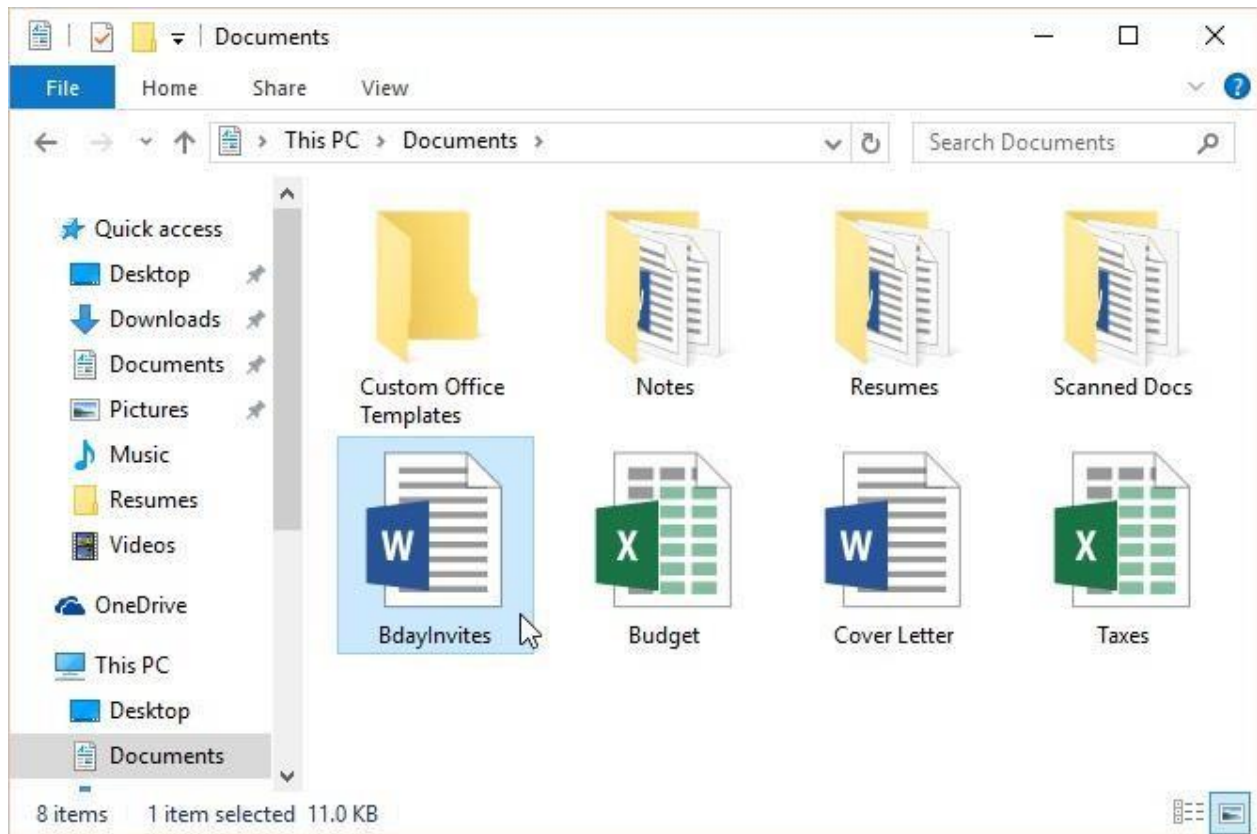


Figure 6: Open a file

- 2- Open the application, then use the application to open the file. Once the application is open, you can go to the File menu at the top of the window and select Open.

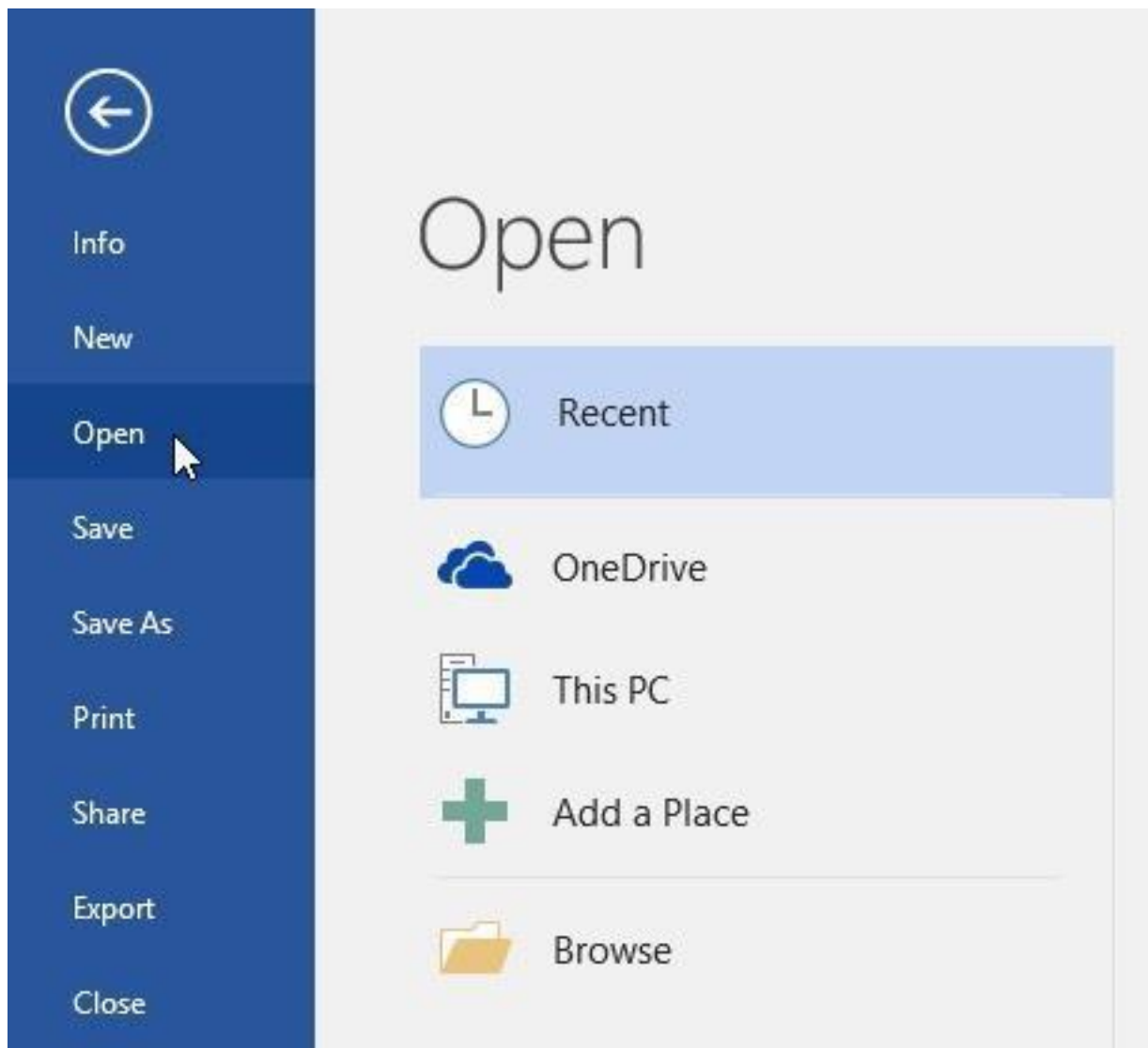


Figure 7: Open a file from an application

## Moving and deleting files:

As you begin using your computer, you will start to collect more and more files, which can make it more difficult to find the files you need. Fortunately, Windows

allows you to move files to different folders and delete files you no longer use.

## To create a new folder:

Within File Explorer, locate and select the New folder button. You can also right-click where you want the folder to appear, then select New > Folder.

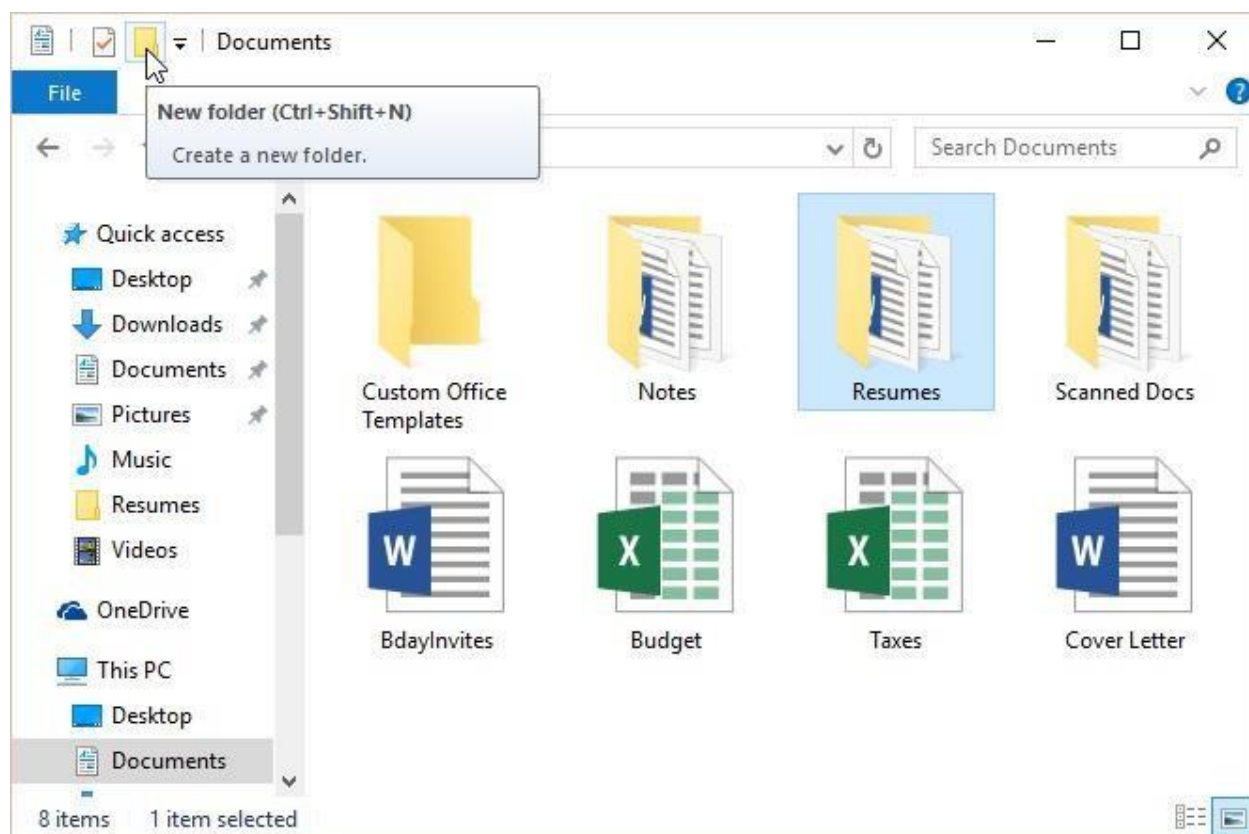


Figure 8: New folder

The new folder will appear. Type the desired name for the folder and press Enter. In our example, we'll call it School Documents.

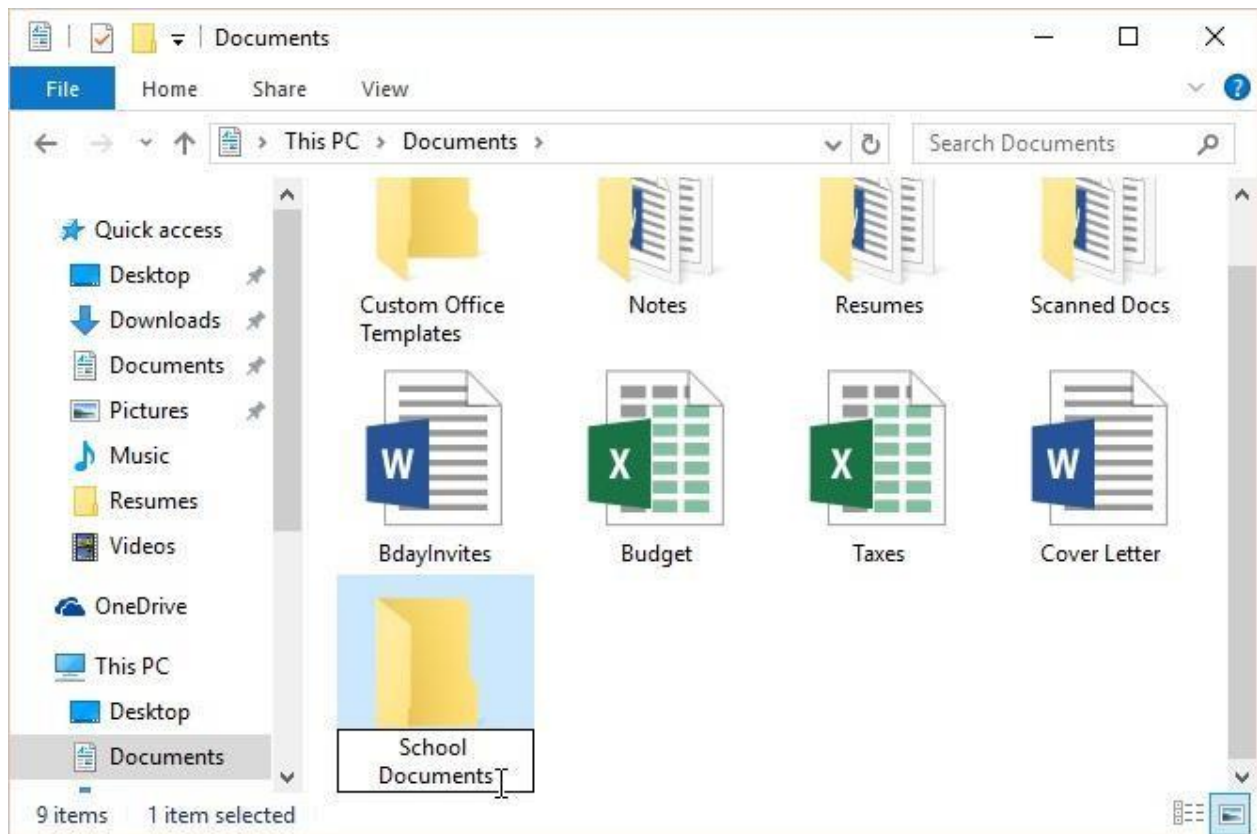


Figure 9: Naming a folder

## To rename a file or folder:

You can change the name of any file or folder. A unique name will make it easier to remember what type of information is saved in the file or folder.

- 1- Click the file or folder, wait about one second, and click again. An editable text field will appear.
- 2- Type the desired name on your keyboard and press Enter. The name will be changed.



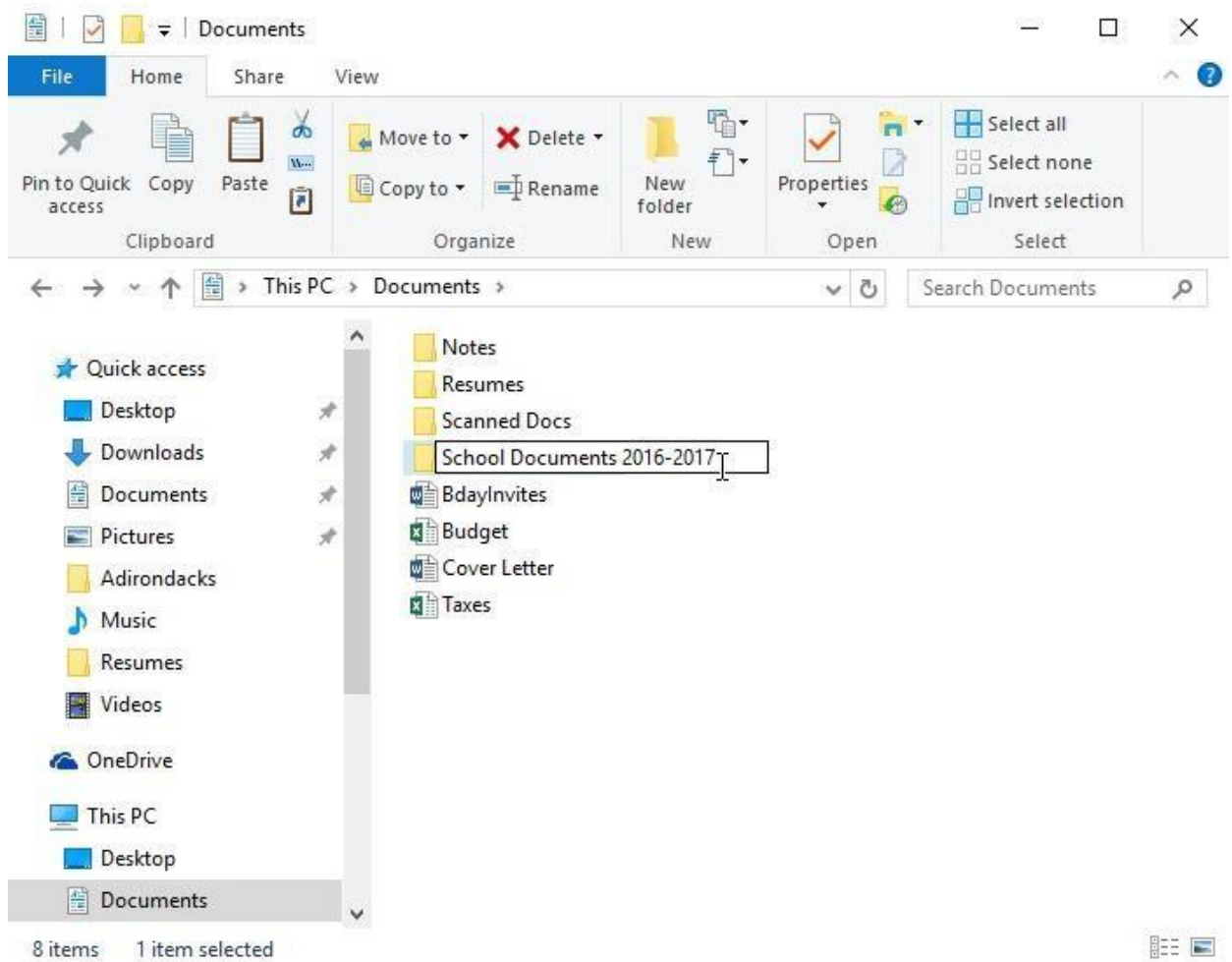


Figure 10: Rename

You can also right-click the folder and select Rename from the menu that appears.

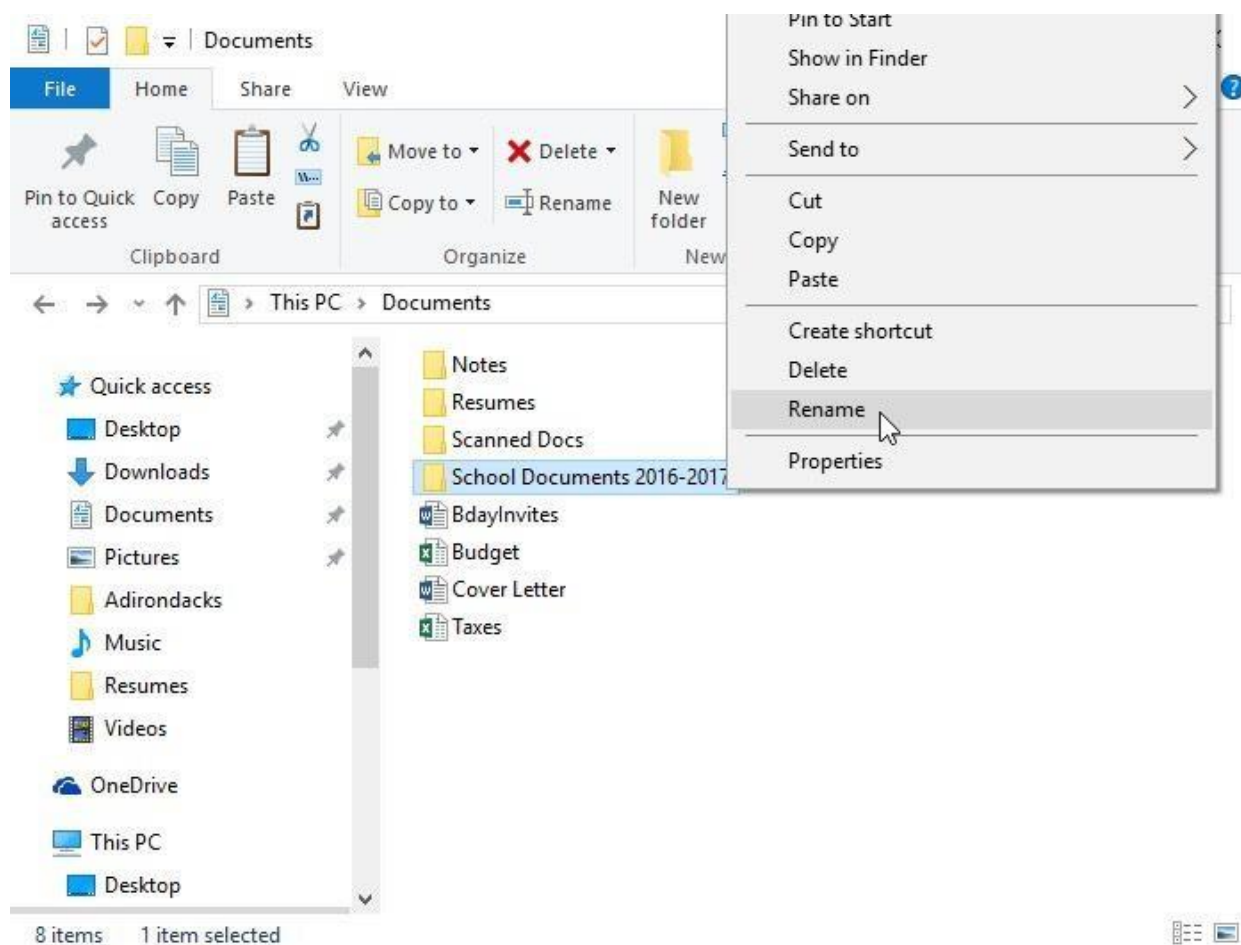


Figure 11: Rename click

## To delete a file or folder:

If you no longer need to use a file, you can delete it. When you delete a file, it is moved to the Recycle Bin. If you change your mind, you can move the file from the Recycle Bin back to its original location. If you're sure you want to permanently delete the file, you will need to empty the Recycle Bin.

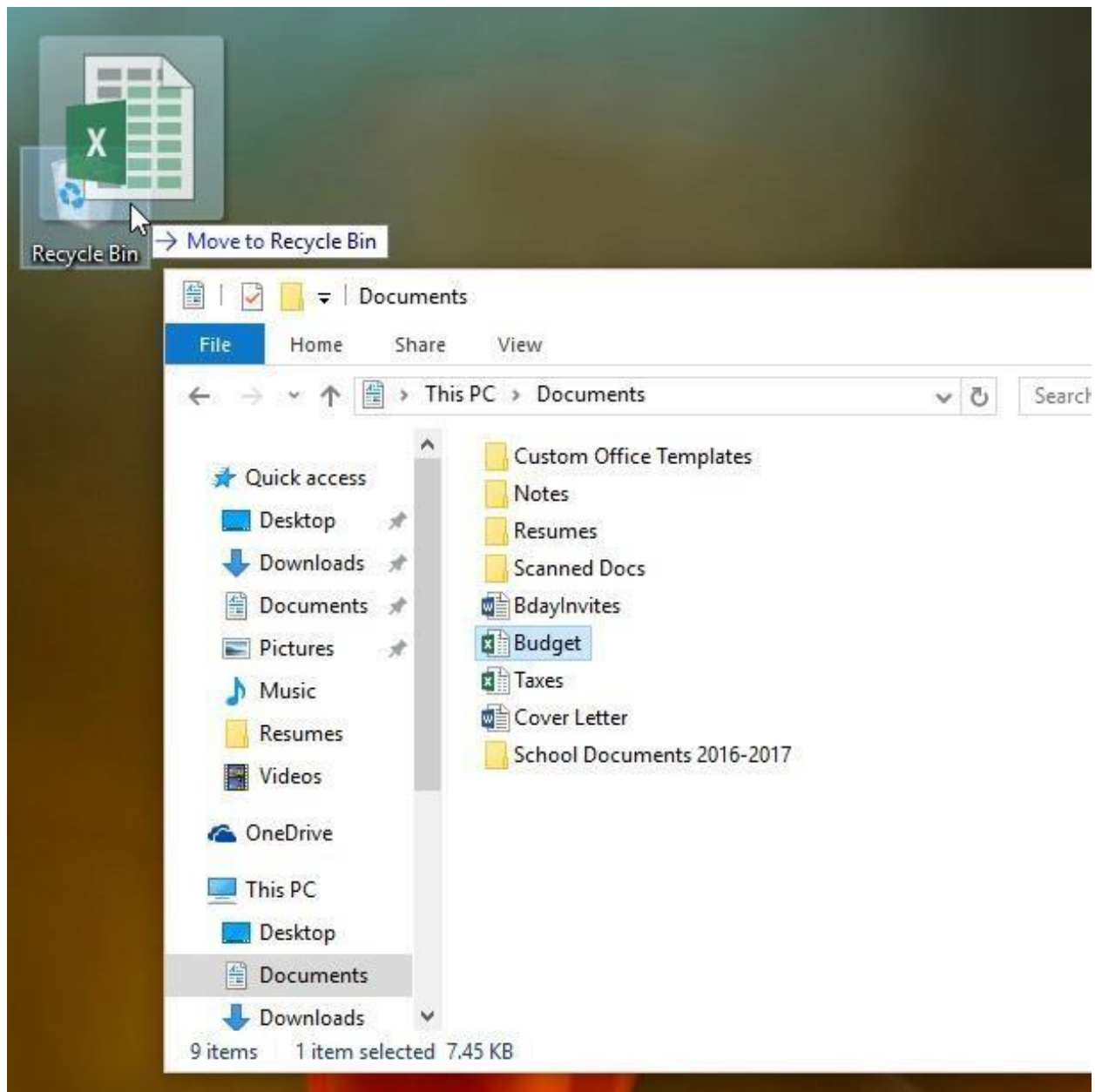


Figure 12: delete a file

To permanently delete the file, right-click the Recycle Bin icon and select Empty Recycle Bin. All files in the Recycle Bin will be permanently deleted.

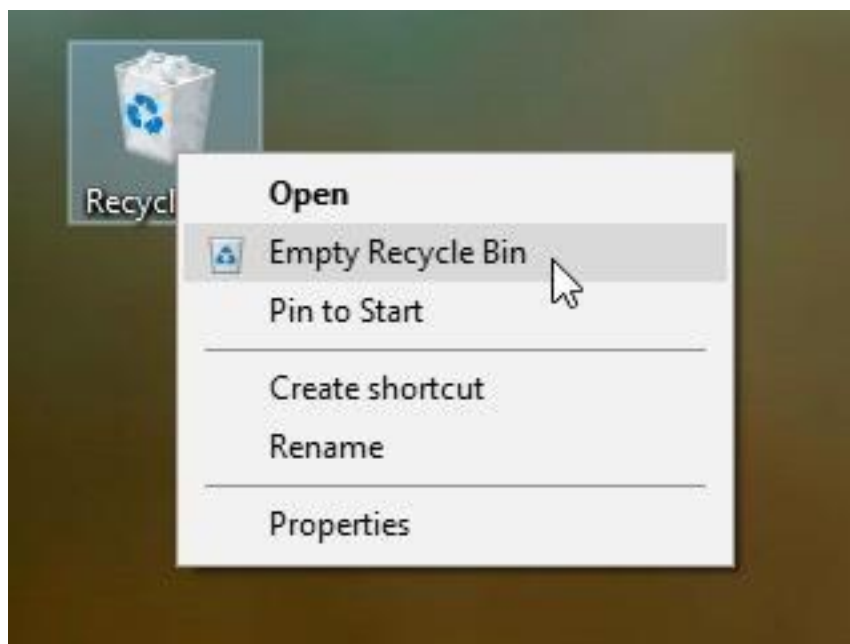


Figure 13: Empty recycle bin

## Selecting more than one file:

There are a few ways to select more than one file at a time:

If you're viewing your files as icons, you can click and drag the mouse to draw a box around the files you want to select. When you're done, release the mouse; the files will be selected. You can now move, copy, or delete all of these files at the same time.

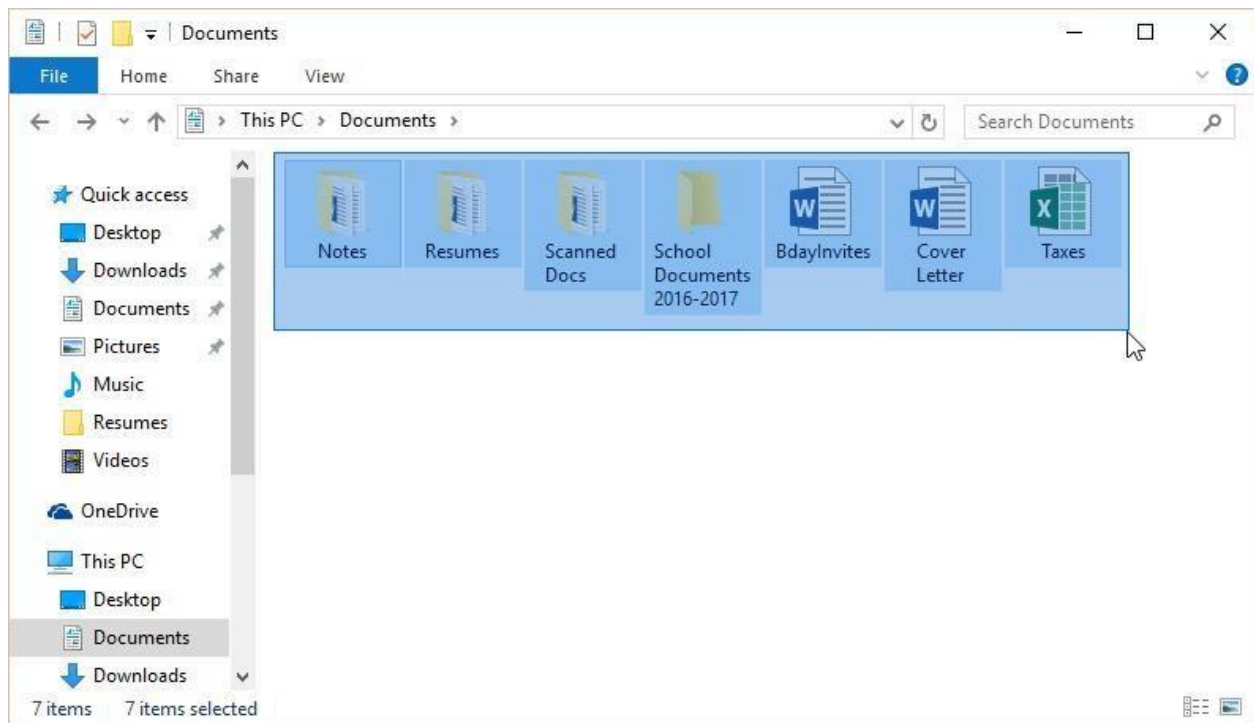


Figure 14: Selecting with drag

To select specific files from a folder, press and hold the Control key on your keyboard, then click the files you want to select.

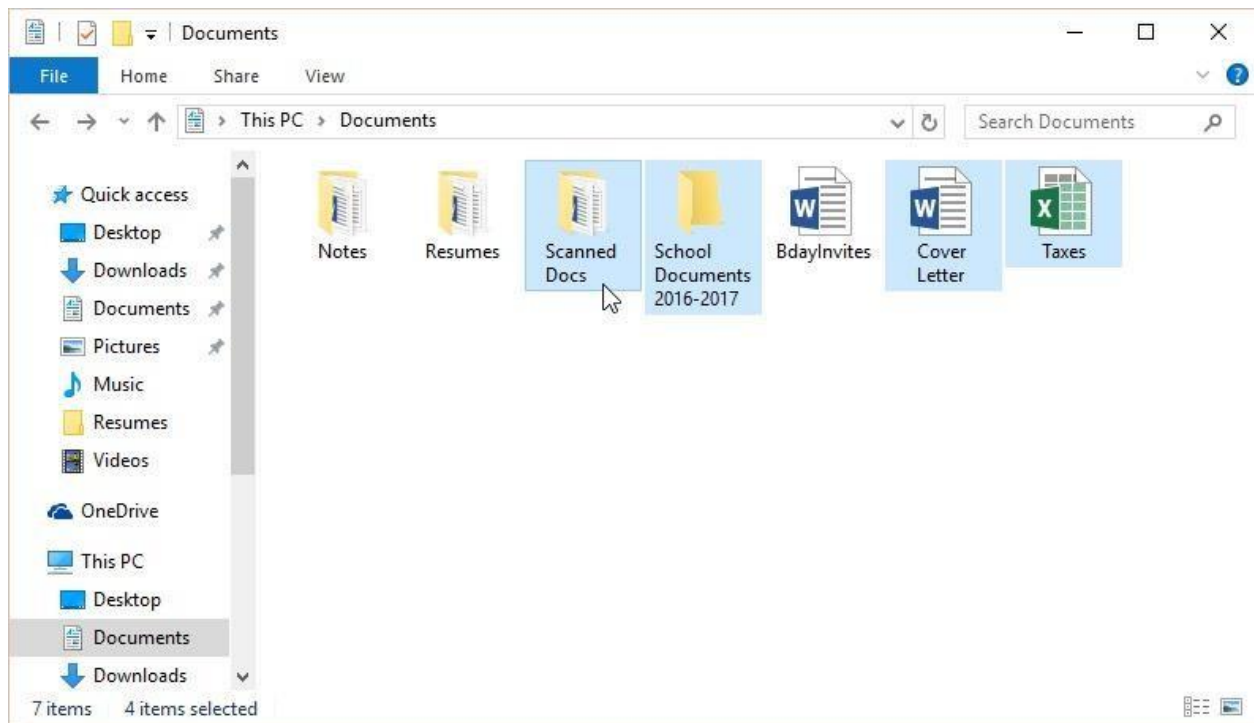


Figure 15: Selecting with control

To select a group of files from a folder, click the first file, press and hold the Shift key on your keyboard, then click the last file. All of the files between the first and last ones will be selected.

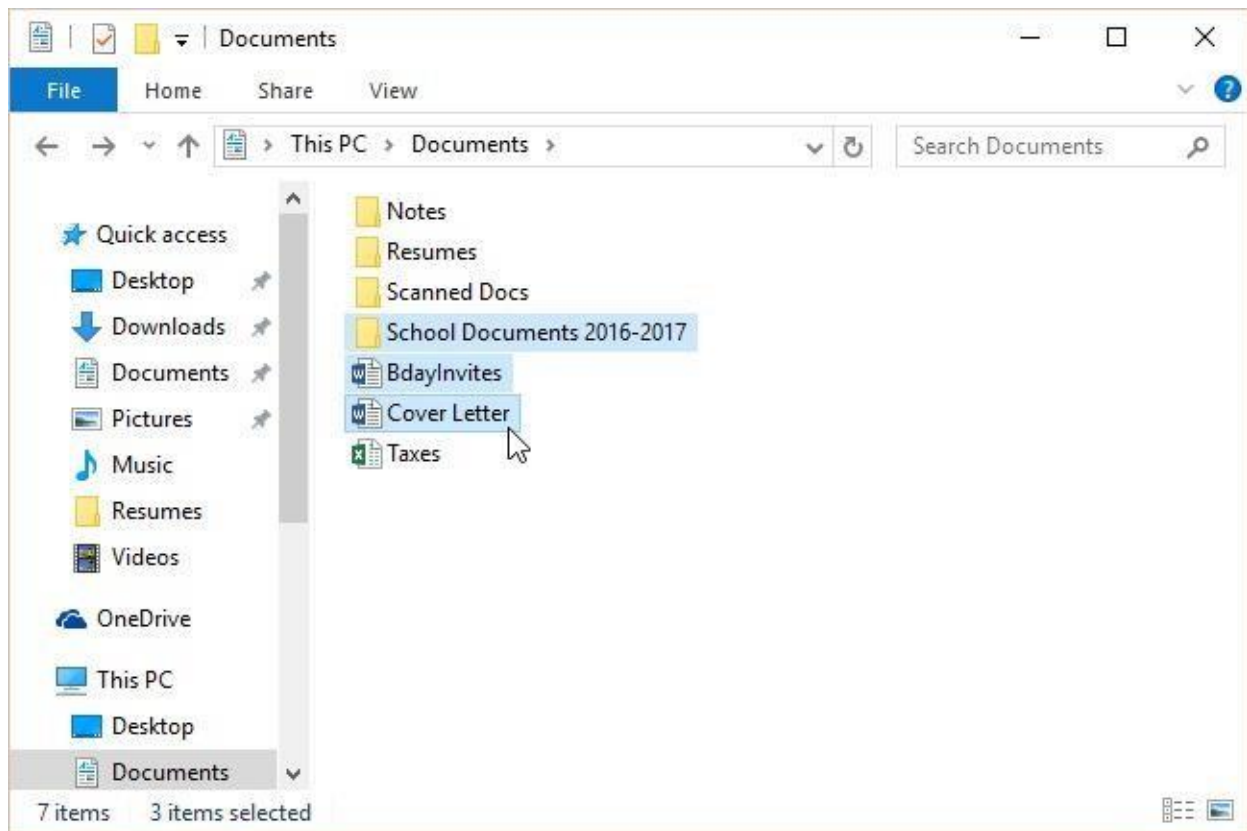


Figure 16: Selecting with shift

to select all files in a folder at the same time, open the folder in File Explorer and press Ctrl+A (press and hold the Control key on your keyboard, then press A). All of the files in the folder will be selected.

## Shortcuts:

If you have a file or folder you use frequently, you can save time by creating a shortcut on the desktop. Instead of navigating to the file or folder each time you want to use it, you can simply double-click the shortcut to open it. A shortcut will have a small arrow in the lower-left corner of the icon.

Note that creating a shortcut does not create a duplicate copy of the folder; it's simply a way to access the folder more quickly. If you delete a shortcut, it will not delete the actual folder or the files it contains. Also note that copying a shortcut



onto a flash drive will not work; if you want to bring a file with you, you'll need to navigate to the actual location of the file and copy it to the flash drive.

## To create a shortcut:

Locate and right-click the desired folder, then select Send to Desktop (create shortcut).

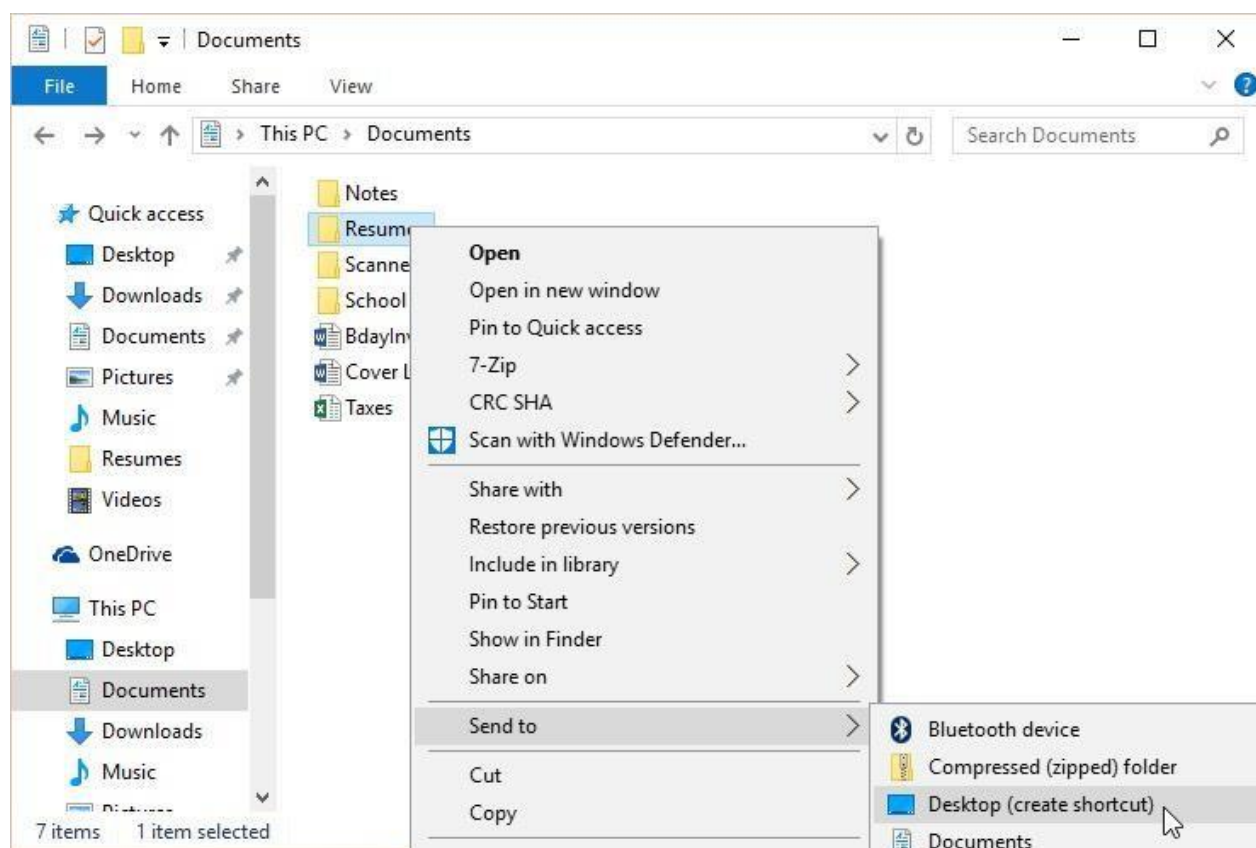


Figure 17: Shortcut

A shortcut to the folder will appear on the desktop. Notice the arrow in the lower-left corner of the icon. You can now double-click the shortcut to open the folder at any time.

Notice You can also hold the Alt key on your keyboard, then click and drag the folder to the desktop to create a shortcut.



Thank You!

