Introduction to Microsoft Windows

Objectives:
Upon successful completion of Lab 1, you will be able to

● Describe some of the basic functions of an operating system, and Windows in particular
● Describe the parts of the Windows desktop environment
● Use the Start menu to launch programs
● Effectively use the Windows applets WordPad and Calculator
● Maximize, minimize, size, and close a window
● Use the Windows Help feature

Resources required:
● A computer running the Windows Vista operating system

Starter files:
● None

Prerequisite skills:
● Basic familiarity with using a mouse to point, click, double-click, and drag, and basic familiarity with using a keyboard.

NRC’s Top Ten Skills, Concepts, and Capabilities:

Skills
Use basic operating system facilities
● Applets (WordPad, Calculator)
● Change the appearance of the desktop
Use online help and instructional materials
● Windows Help

Concepts
Fundamentals of computers—Windows as an operating system
Limitations of Information Technology

Capabilities
Anticipate technological change
Lab Lesson

In order to be able to complete tasks such as save files, print documents, and launch programs, a computer requires software called an operating system. One of the most popular operating systems is Windows. You have probably heard of different versions such as Windows 98, Windows 2000, Windows XP, and Windows Vista. Regardless of the version, they all have the same basic functionality.

The purpose of this hands-on lab is to provide an introduction to the Windows Operating System. Hands-on tasks will be identified by the symbol.

When a computer is powered on, you’ll hear some beeping as it does some hardware checks, and then the operating system loads. A computer running the Windows Operating System may display a login screen, or it may show the desktop immediately, depending on the setup. The Apple Macintosh family of computers runs a different operating system called Mac OS. When you purchase software, you must be sure to check the system requirements and purchase software for the operating system you are using. For example, software purchased for the Windows Operating System will not work on an Apple Macintosh.

Parts of the Windows Desktop

Turn on your computer and sign in if necessary in order to display the Windows desktop. An example of the Windows desktop is shown in Figure 1.1.

Figure 1.1  Windows Vista desktop.
The desktop shown in Figure 1.1 has icons on the left, the Taskbar on the bottom, and an open window, which contains a document. **Icons** are pictures that represent programs or files. There are icons on the desktop and on the Taskbar. The picture is wallpaper, which has been centered on the desktop. Any digital picture can be used as wallpaper.

- Look at your desktop. Identify the Taskbar and icons. The Taskbar contains the following items:

  **Start button**

- Identify the **Start** button on your computer.
- Click once on the **Start** button to reveal the **Start** menu, similar to that shown in Figure 1.2.

![Start menu](image)

**Figure 1.2** Start menu.

Your **Start** menu will contain items similar to those shown in Figure 1.2. We will use this menu later to launch some programs. The most recently used programs are listed above the **All Programs** menu item. You can click those to relaunch the programs.

- Click the **Start** button to close the menu.

The **Start** button is used to display menu items that allow you to select and load applications programs, files, or options for changing the appearance and functionality of the Windows environment. **Applications programs** are programs that allow you to perform noncomputer related tasks. This includes word processing, spreadsheet, image editing, games, and other programs. The **Start** button is also used to shut down the computer.
Identify the Quick Launch bar on your computer. If you don’t see it to the right of the Start button, it may not be visible on your computer. Some computers are configured so that the Quick Launch bar is not visible.

If the Quick Launch bar is visible, move your mouse pointer over the icons and hover over each one for a second or two. You should see the name of the program or feature pop up.

The Quick Launch bar contains icons that represent programs. You can click these icons to launch the programs as a shortcut method.

Identify the System Tray on your computer. Notice that it contains the clock.

If the clock is visible in the system tray, position your mouse pointer on top of the clock.

The System Tray displays icons for programs or processes that are currently running. You may see icons representing your network connection, anti-virus software, or speaker volume.

Move your mouse pointer over icons in the System Tray and hover over each one for a second or two. You should see the name of the program or feature pop up.

If there are many items in the System Tray, only the active icons may be displayed and the inactive ones may not be visible.

Click the Show Hidden Icon arrow on the System Tray to display all icons, as shown in Figure 1.3. You may not see this icon if all items are active and displayed.

Notice that all icons in the system tray are visible. After a few seconds, the System Tray should collapse to show only the active icons.

Let’s select an active feature and make some changes.

Double-click the volume icon on the System Tray.

You should see the Volume Control dialog box, as shown in Figure 1.4.
Position the mouse pointer on the slider and drag it up and down to adjust the volume.
Click once on the desktop to close the Volume Control box.

Windows Applets—Calculator

There are a variety of small application programs available in the Windows environment. These small application programs are called applets. Applets perform just a few tasks and are not nearly as robust as the large application packages such as Word and Excel. As examples of applets, let’s explore Calculator and WordPad.

Click the Start button to reveal the Start menu.
Click the All Programs menu to reveal the list of programs on your computer. Your list will be similar to the list shown in Figure 1.5.
Click the Accessories menu item.
Click the Calculator menu item to open the Calculator applet.
Notice that the Calculator has opened and there is a corresponding button on the Taskbar as well. The Calculator applet is exactly what your intuition is telling you. You can click each of the buttons to enter a number and perform math functions. The buttons that may not be intuitive are * for multiplication and / for division.

Take a few minutes to use the calculator to perform some quick calculations. For instance try \(99 + 199 =\) and the answer will appear in the display. To perform calculations you can click the number and symbol buttons on the Calculator applet or you can press the keys on the keyboard.

An open window will also contain a text menu that can be used to select features.

In the Calculator window, click the menu items View, Scientific, as shown in Figure 1.6.
Notice that the calculator is now displayed as a scientific calculator.

- Click the menu items View, Standard to return the calculator view to a standard calculator.

**Minimizing and Closing Open Windows**

Now that the Calculator applet dialog box is open, it is a good time to review minimizing and closing windows. The Window buttons are located in the upper-right corner of each open window.

In the case of the Calculator applet, the Maximize/Restore button is disabled because this window cannot be sized. When a button is disabled, clicking on it will have no effect. There are many instances in Windows when a button or other element is disabled because a feature is not available at a particular time.

- Click the Minimize button.

Notice that the Calculator disappears from the desktop and a button appears on the Taskbar.

- Click the Calculator button on the Taskbar to restore the Calculator dialog box to the desktop.

You can also use the mouse to drag a window from one position to another on the desktop. The title bar of a window is at the top of the window, as shown in Figure 1.7.
Drag the Calculator title bar to move the Calculator window around the desktop.

If there are other open or minimized windows, those buttons will be displayed on the Taskbar as well.

Let’s close the Calculator applet.

Click the Close button on the Calculator applet to close the window.

Notice that the Calculator button has disappeared from the Taskbar.

Let’s open the Calculator applet again in order to work with multiple windows.

Click the Start button and select the menu items All Programs, Accessories, Calculator.

Using WordPad

Windows includes a small word processing applet called WordPad. It allows you to create and edit a small document such as a memo or essay. Let’s open WordPad and save a document.

Click the Start button to open the Start menu.

Click the menu items All Programs, Accessories, WordPad.

You should notice the WordPad window open on the desktop, as shown in Figure 1.8. You also have the Calculator window open as well.
When there are several windows open, the active window generally has a darker title bar and possibly a flashing insertion point or other indicator.

- Click the Calculator window to activate it.

Notice that the title bar is darker, and the Calculator button on the Taskbar appears to be pressed.

- Click the WordPad window to activate it.

Notice that the title bar is darker, there is a flashing insertion point in the document window, and the WordPad button on the Taskbar appears to be pressed.

You can activate a window by clicking inside the window on the desktop or by clicking on the corresponding button on the Taskbar.

Let’s look at a few of the WordPad features and save a file.

- Make sure the WordPad window is active.

The buttons on the toolbars may look a little confusing, but you can determine what each one is by hovering your mouse pointer over each button. A pop-up label with the name of the button will appear.

- Move your mouse pointer over one of the buttons on the toolbar and hover for a second. The pop-up label should appear under the button.

Let’s add some text.
Type your name in the document window. To do this, you can hold the Shift key down while you press letters for uppercase. You can also press the Caps Lock key to turn on uppercase. Pressing the Caps Lock key again will return to lowercase. You can use the Backspace key to delete characters to the left of the insertion point, and the Delete key to delete characters to the right.

Press the Enter key on the keyboard to move the insertion point to the next line. Press the Enter key again to move the insertion point to the next line.

There are many instances when it is useful to find information using the built-in Help feature. Let’s use the Help feature to learn how to center the text.

Click the Help, View Help menu items.

The Help dialog box should appear, as shown in Figure 1.9.

![Help dialog box](image)

**Figure 1.9** Help dialog box.

Click in the Search box as shown in Figure 1.9.

We will use the keywords “WordPad center text” to search for information about the center feature.

Type: WordPad center text

Hit the Enter key to display the Help information for the center feature.
The **Help** window displays options that may contain helpful information as shown in Figure 1.10.

- Click the option “Formatting text in WordPad”.

The Help information will appear as shown in Figure 1.10.

- Click the option “How do I change paragraph alignment?” A description of the steps required to center the paragraph will be displayed, as shown in Figure 1.10.

![Help search results](image)

**Figure 1.10** Help search results.

- Following the directions in the Help window, click anywhere in your name text.
- Click the menu items **Format, Paragraph**.
- Click the drop-down for Alignment and select **Center** as shown in Figure 1.11.
- Click the **OK** button.
- Click the **Close** button in the Help window.
- Position the mouse pointer at the end of your name text and click to position the insertion point.
- Hit the **Enter** key twice.

Notice that the insertion point is centered. Let’s left-align it so that the next paragraph will be left-aligned.

- Click the menu items **Format, Paragraph**.
Click the drop-down for Alignment and select Left.

Click the OK button.

Type the following paragraph:

Learning all about using Windows can be fun, but overwhelming. It will take a while to learn, but that’s okay. I will learn it one step at a time.

Do not press the Enter key at the end of the line of text. WordPad automatically wraps the text to fit the ruler.

We can use the formatting toolbar to add formatting enhancements to the text.

Drag the mouse pointer through your name to highlight it. Hold the left mouse button down while you drag the pointer through your name, and release the mouse button once your name is highlighted.

Click the Underline button to underline your name. Feel free to click the Bold and Italics buttons to add those formatting enhancements to your name as well. Your document should look something like that shown in Figure 1.11.

Figure 1.11 WordPad paragraph format dialog box and formatted document.
Sizing an Open Window

Most open windows can be adjusted in size and maximized to fit the full desktop. Let’s play with the size of the WordPad window.

➤ Move your mouse pointer along any of the edges of the WordPad window until a double arrow appears. Once the double arrow appears, drag the mouse pointer in either direction of the arrow to change the size of the window. When you release the mouse pointer the size will be set.

If you size a window so that the document is not completely visible, scroll bars will appear as shown in Figure 1.12.

![Figure 1.12](WordPad with scroll bars.)

➤ Once your window is sized to display scroll bars, click the arrow buttons at either end of the scroll bars to scroll through the document.

The window can be maximized to fit the full size of the monitor using the Maximize/Restore button at the top-right corner of the window.

➤ Click the Maximize/Restore button to maximize the WordPad window, as shown in Figure 1.13.

![Figure 1.13](Windows buttons: Minimize, Maximize/Restore, Close.)
Notice that the **WordPad** window has been sized to fit the full screen.

- Click the **Maximize/Restore** button to restore the WordPad window.

Notice that the **WordPad** window has been restored to the size it was before it was maximized to the full screen size.

Let's save the WordPad file as a **Rich Text Format (RTF)** document. Word processing applications, regardless of the version, are able to read Rich Text documents. If you are sending your resume via email, RTF is a good file format choice.

- Click the menu items **File**, **Save As**. The **Save As** dialog box should appear as shown in Figure 1.14.
- In the **File name** box, type: test

![Figure 1.14  File Save As box in WordPad.](image)

By default, WordPad will save your file as a Rich Text file, in the **Documents** folder.

- Click the **Save** button to save your file.

Notice that the name of the file, *test* now appears in the title bar of the **WordPad** window.

- Make a change to the document by adding your middle name. Click the **Save** button to save the change.

Let's close the file, and then reopen it.

- Click the **Close** button in the upper-right corner of the **WordPad** window to close the window and close the file.
- Click the **Start** button and the menu options **All Programs**, **Accessories**, **WordPad** to reopen WordPad.
- Click the menu items **File**, **Open**.
You should see a listing of files in the My Documents folder, which includes the test.rtf file.

- Click the test.rtf file name and click the Open button to open the file. You may not see the .rtf extension; it depends on your Windows configuration.

The test.rtf document file should now be visible in the WordPad window.

Changing the Appearance of the Windows Desktop

In addition to manipulating open windows and using applets, the Windows Operating System allows us to adjust the appearance of the desktop and set some configuration features such as screen savers and energy saving options. We will use a shortcut menu to access the properties of the desktop. Right-clicking the mouse reveals a shortcut menu. The method is to click the right-mouse button instead of the left-mouse button.

- Close the WordPad and Calculator windows.
- Move your mouse pointer to an empty area on the desktop, and right-click to reveal the shortcut menu, as shown in Figure 1.15.

![Figure 1.15 Windows desktop shortcut menu.](image)

- Click the Personalize menu item with either the right- or left-mouse button to reveal the Personalization dialog box.
- Click the Screen Saver option, as shown in Figure 1.16.

The purpose of a screen saver is to prevent burning an image into the monitor screen if the screen does not change over a long period of time. Feel free to take a few minutes to explore the variety of screen savers available by clicking on the drop-down arrow beside the screen saver name. Choose a screen saver by clicking on a screen saver name and clicking the Preview button to view a sample of the screen saver. Click again when the screen saver is in preview mode to return to the desktop.
Click the “Change Power Settings” link to view the power options, as shown in Figure 1.17. Feel free to take a few minutes to read the assorted options for conserving power. The power options will be tailored to the type of computer you are using. If you are using a laptop, options will include features to conserve battery power.
Click the **Close** button to accept the power options and return to the **Screen Saver** dialog box.

Click the **Cancel** button to close the Screen Saver window without changes.

In the **Personalization** box, click the **Desktop Background** option to display the properties for wallpaper, as shown in Figure 1.18.
Figure 1.18  Windows desktop background properties.

- You can scroll through the Background list and click each background type. Some backgrounds are large pictures. You can adjust the position of a large picture to center or stretch. If a small picture is stretched, you will find that it becomes out of focus.
- After you’ve finished making selections, click the OK button to accept the Display Background options.
- Close the Personalization window.

Using Windows Help

Most software, including the Windows Operating System, contains extensive help information. If you’re wondering how to use a feature, or are interested in more information about the features of the software you’re using, the Help feature is the first place to look. Let’s use the Windows Help feature to learn how to set up a printer.

- Click the Start button.
- Click the Help and Support menu item.

The Help and Support window will open.

- In the Search box, type: “setting up a printer,” as shown in Figure 1.19.
- Click the Search Help button.
Figure 1.19  Windows Help and Support.

After you click the Search Help button, you should see a list of results appear in a new window, as shown in Figure 1.20.

- Click the task “Getting started with printing”. If your version reveals other tasks, feel free to choose one.
Figure 1.20  Help and Support for setting up a printer.

- Close the Help and Support Center window after you have completed your search.

Shutting Down Your Computer

When you have finished using your computer, it is important to shut it down properly. Windows will close any open applications, save settings, and remove temporary files that have been stored.

When you’re ready, take the following steps to shut down your computer.

- Click the Start button.
- Click the arrow next to the Lock button, as shown in Figure 1.21.
Click the **Shut Down** option to turn off the computer.

The **Sleep** feature can be used when you wish to conserve energy. It will power down the hard drive and monitor and retain information in memory. If there is a power interruption, information in memory will be lost, so it is wise to save your documents before you use the **Sleep** feature.

**Review**

This has been a busy lab! We have covered the following topics:

- The Windows family of operating systems
- Parts of the desktop
  - Icons
  - Taskbar
  - Quick Launch bar
  - System Tray
  - Start button
- Opening Windows
  - Minimize
  - Size
  - Maximize/Restore
  - Close
  - Taskbar button
- Applets
  - Calculator
  - WordPad
- Changing the appearance of the desktop
  - Screen savers
  - Power saving options
  - Desktop wallpaper
- Windows Help
- Shutting down your computer

**Exercises**

1. Right-click the desktop and select the **Personalize** menu item from the shortcut menu. Click the **Window Color and Appearance** option. You can select a color scheme from the drop-down arrow on the **Color Scheme** box. You can also click the **Advanced** button to select custom colors. Feel free to experiment!
2. Open WordPad. You can open the test.rtf file or start a new file with text of your choice. Experiment with the buttons on the formatting toolbar to add color and change the font and font size. Formatting buttons are shown in Figure 1.22. Drag to select text, and then click the formatting buttons to apply the formatting feature to the highlighted text. Use the Alignment buttons to align titles or paragraphs.

**Figure 1.22** WordPad formatting toolbar.