



# Introduction to Windows NT 4

Course Description: This class is for the novice user who has little or no experience with personal computers. Topics covered include the fundamentals of the Windows NT operating system, basic components of the personal computer, and an overview of basic Windows NT commands. An introduction to the Workstation and Microcomputer Facilities will also be given

Prerequisites: None

This document has been prepared for you by W&MF staff so that you can familiarize yourself with the basics of the Personal Computer. This document is meant to serve as a future reference for you ñ covering from the very basic to the fairly detailed. Not all the information mentioned in this document will be covered in the *Introduction to the Windows NT* class.

## INTRODUCTION TO OPERATING SYSTEMS

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### What Is An Operating System?

An operating system is a program installed on a computer that assigns resources, manage tasks, and provides the user a way of interacting with available resources. Different types of operating systems including Windows 95/98 and Windows NT for the PC and Mac OS 8 for the Macintosh.

### What Is New in Windows NT 4?

Windows NT is an operating system created by Microsoft Corporation. Its interface is similar to that of Windows 95/98 and includes some of the following features:

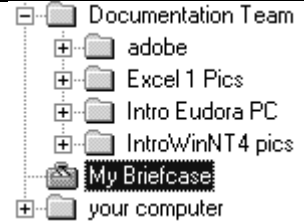
- **Multitasking.** Windows NT allows the computer user to do more than one task simultaneously. For example, while a document is printing out, the user can also check email or run another program.
- **Task Manager:** This Windows NT feature allows users to manage the different tasks and programs they are running. Users can see which applications are running and choose to go a particular application while running other tasks simultaneously.
- **Other Operating System Support.** Windows NT is a multi-functional operating system that allows software written for other operating systems (i.e. Windows 95/98, Windows 3.x, OS/2) to be used.
- **Desktop:** A desktop is the area on the screen where users can store files and shortcuts to certain programs.
- **Internet Accessibility.** Windows NT comes integrated with various internet applications such as FTP, Telnet, and Internet Explorer.
- **Security.** Windows NT comes packaged with high security functions that monitor for memory resources and password access to files and computers.
- **Multiple User Profiles.** A main feature of Windows NT is to provide an operating system to a network of computers. Once user profiles are created, different users can logon to Windows NT and access the available resources. A different desktop will be selected based on the preferences of the individual user.
- **Long Files Names.** Users are no longer limited to filenames that are 8 characters long.
- **Right clicking:** Users can right-click the mouse on different areas of their screen (and in different applications) to get a menu with different options related to the application.
- **My Computer.** Users can now easily view the contents and resources of their computer by double clicking on the icon to the right. This icon is located on the desktop of Windows NT.



My Computer

## FILES AND DIRECTORIES



Everything on a PC is stored as files and directories. You can think of a PC as a big filing cabinet. Inside this cabinet there are some papers and some folders with specific names. Inside the folders there can be papers or more folders, each of which can contain papers or still more folders. Files on a PC correspond to papers, while directories correspond to folders. When one directory is inside of another, it is known as a *subdirectory*.



All of these files and directories have to be stored on disks. Hard disks are very fast and can store a lot of information, but they are only used inside of computers.



Floppy disks are slower and can't store as much information as hard disks. However, they can be carried from computer to computer. The most common disks used are 3.5-inch disks, but some older computers can use 5.25-inch disks. There are two types of 3.5-inch disks: high-density and double-density. The high-density disks store much more information (1.4 Megabytes) than the double-density disks (720 Kilobytes). Also, high-density disks have a HD icon located at the top right corner.

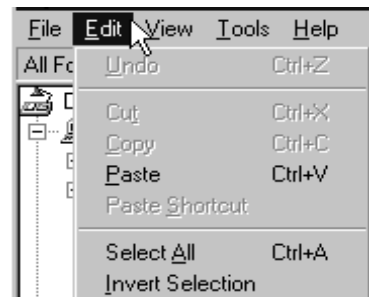
Windows NT conveniently organizes hard drives and disks for the user into letters. Usually, the hard disk is drive C  and a floppy disk  is drive A. There can be many more letters if the computer has multiple hard disks or floppy disks, or if it is attached to a network.

The location of a file is also known as a **pathname**; the actual location includes the drive and folders containing the file or program (i.e. c:\windows\temp\). Also, the filename usually ends in three letters known as the **extension**, describing what type of file it is. For example, if the file is pure text, the extension is usually .txt. If the file is a program you can launch, the extension is usually .exe.

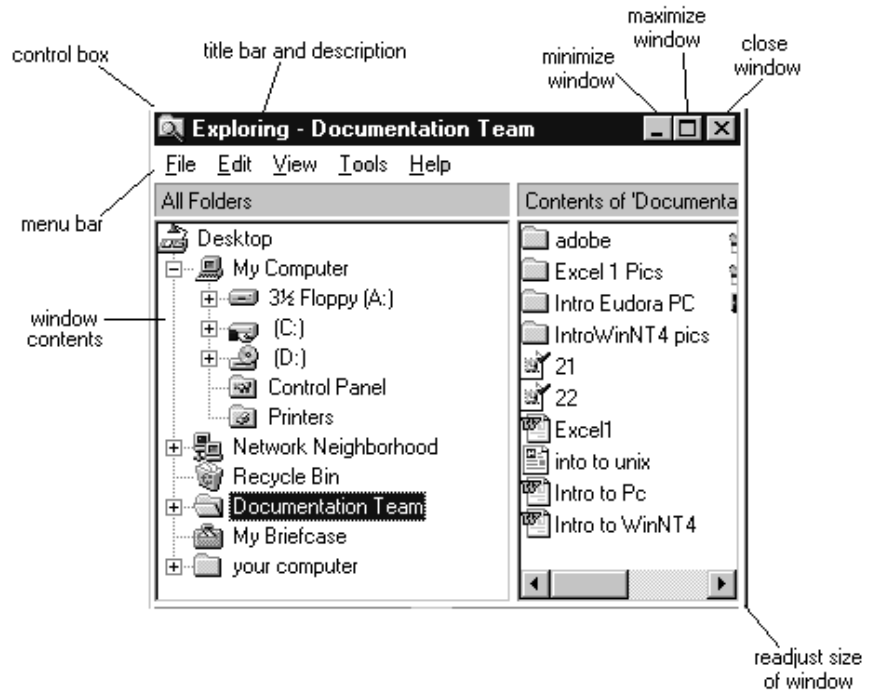
## WINDOWS

Windows are the main forms of organization and navigation within the NT environment. Windows work in conjunction with the mouse, which as a hardware tool attached externally to your computer. The mouse controls an arrow, known as a *mouse cursor*, on the screen. Experiment with the mouse to get used to how it controls the cursor. A mouse on a PC usually has two or three buttons, but Windows NT uses only the left and right buttons. There are several terms that apply to the mouse. To *click* on something means to move the pointer onto it and press the left button once. To *double-click* on something means to move the pointer onto it and press the left button twice quickly. Finally, to *drag* an object means to press the mouse button on the object, move the pointer to another part of the screen, and then release the mouse button.

Menus control most of the commands within Windows NT. They appear in a strip and usually start with 'File' and 'Edit'. To access a menu, click once on the menu name that you would like. You will see a list of options under the menu name. Choose the option that you would like and click on it.



Every program in Windows runs in a window, which is a portion of the screen reserved for that program. Each window has a **title bar**, a **border**, **maximize** and **minimize** buttons, a **menu bar**, and a **control box**. The window's title-bar gives the name of the window as well as the file that it is currently displaying (if available). To resize a window you can drag the window's border.

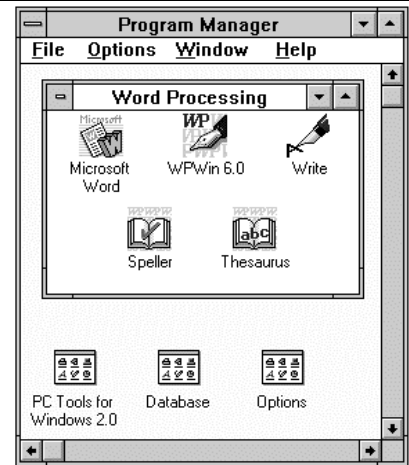


Clicking on the **minimize** button will cause the window to shrink into an icon on the bottom of the screen (located on the **task bar**).

You can bring back the window by double-clicking on this icon. Clicking on the **maximize** button causes the window to occupy the whole screen, and clicking on the **close window** button causes the entire window to close

## TASKBAR

In Windows 3.1, users can run programs through the *Program Manager*, which is the screen that you see when you start Windows. In the Program Manager users can see many little pictures, called *icons*. Some of these icons are folders, and some are programs. Folders don't do anything except hold programs. To see the programs inside a folder, double-click on the folder's icon. To run a program, double-click on the program's icon.



Win 3.x Program Manager

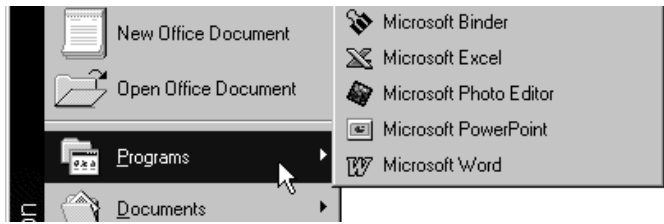
However, in Windows NT, the **Taskbar** replaces this *Program Manager*. The **Taskbar** also shows you the programs that are currently active. To multi-task between them, you can hit the **alt + Tab** keys or just click once on the program's icon on the **Taskbar**. Programs can also be accessed anytime through the **Start Menu**, where users can run programs that are organized into certain folders. To access the **Start Menu**, put the mouse cursor over the **Start** button and click once.

Another way of accessing the programs actively running on your computer, click on **Alt + Ctrl + Del** to open the **Task Manager**. This utility program provides you with information regarding the active programs including performance of your computer and the status of your active programs.



Taskbar in Win NT

Folders containing programs will display an arrow symbol, denoting that more than one item is located within the particular folder. To access the items, go to the particular folder by clicking on it with the mouse. The items will then appear in a list located to the right of the screen.



## START MENU



The **Start Menu** also offers the user various features besides access to certain programs. Under the **Documents** item, users can easily access recently created documents of any type. To see a list of it, just move the mouse cursor and click on the item. A list will pop-up to the right of it.

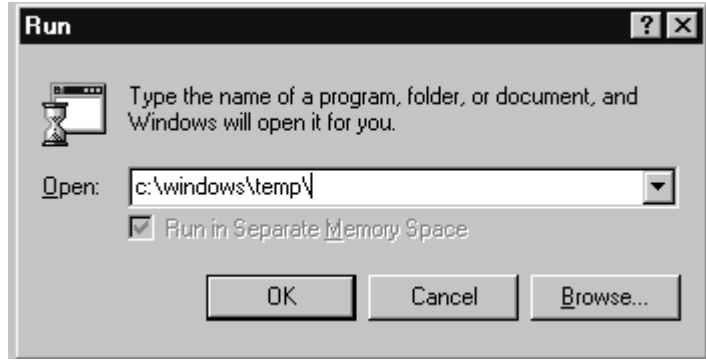
On your home computer, you can choose to configure your desktop and Windows NT environment as you choose. To do so, go to the **Settings** item and choose: **Control Panels**, **Printers**, or **Taskbar**.

- **Control Panels:** This selection allows users to configure their computer. It includes options such as: accessibility options, add/remove programs, MSDOS Console, Date/Time, Devices, Display, Fonts, Internet, Keyboard, Mail and Fax, Modems, Mouse, Multimedia, Regional Settings, Server, Services, Sounds, and System.
- **Printers:** You can configure your printer under this item.
- **Taskbar:** You can configure the way your **Taskbar** looks through this item. You can choose to make your **Taskbar** always show, Auto Hide, show small icons in the **Start Menu**, or show the clock

Users can also use the **Find** feature to find certain files, folders, or computers on a network. Type the name you want to search for in the white box provided by the feature.

The **Help** function is particularly helpful in that you can do a search for the topic you want more information on. Users can select to view the **Help** information by a *Contents* listing, *Index* listing, or *Finding* it manually by name.

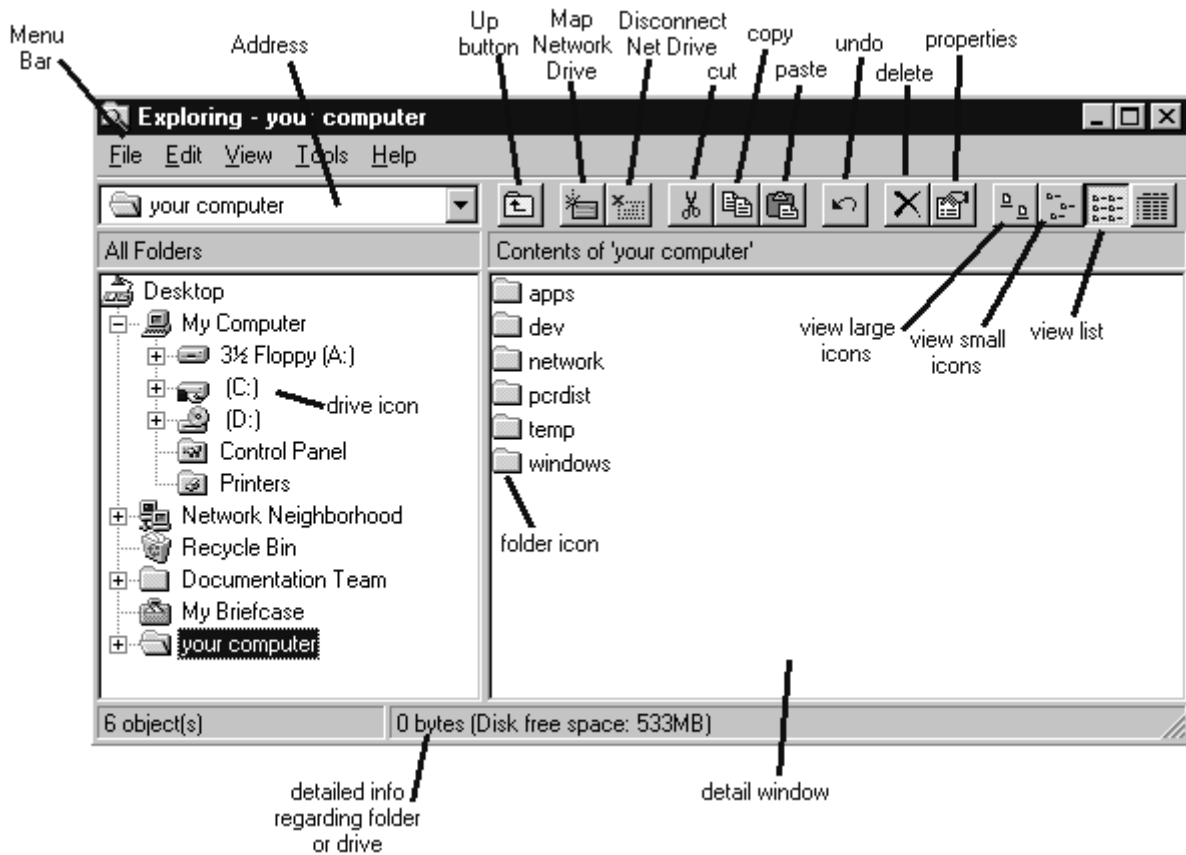
The **Run** function is helpful if you want to manually load a program without a mouse. You can load programs as you would using DOS (Disk Operating System), which was included as a main operating system in previous releases of Windows 3.x. However, you will need to know the location (**path**) of the program you want to load. You can also **Browse** for files by clicking on the **Browse** button located to the right.



## WINDOWS NT EXPLORER

To manipulate files you will use *Windows Explorer*, which is similar to Windows 3.x's *File Manager*. This utility program is located under the **Start Menu** in the **Programs** folder. When you open *Windows Explorer*, you will see a window with a hierarchical view of the resources available within your computer.

This window is split into a directory list (on the left) and a file list (on the right). You can change to a different directory by clicking on it. If you double-click on a directory, *Windows Explorer* will display the subdirectories. Furthermore, the directory list will have a + or ñ on the left side of the item. The + shows you that the list can expand further if you double click on the +. Once you do so, you will see an expanded list with a ñ next to the highest item in the list. This shows you that you can collapse the list into the highest item.



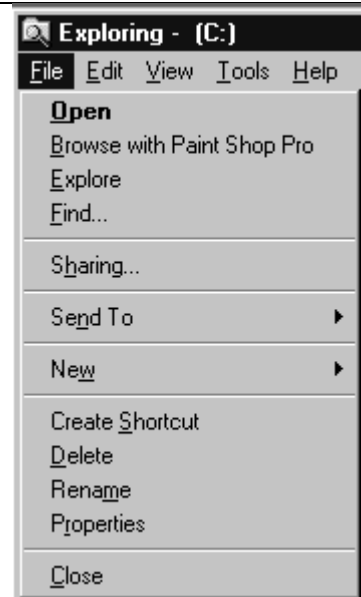
To change drives click on a drive's icon in the directory list of the window. You can also choose the drive from the pull-down menu labeled **Address**.

Descriptions of Windows NT Explorer Functions			
<b>Menu Bar</b>	Shows available menus from Explorer	<b>Paste</b>	Pastes previously copied or cut selection from clipboard.
<b>Address</b>	Shows location of current selection	<b>Undo</b>	Reverses previous action.
<b>Up</b>	Move up one hierarchical level from present selection.	<b>Delete</b>	Erases current selection.
<b>Cut</b>	Cuts the current selection and places it into the clipboard.	<b>Properties</b>	Shows properties for current selection. This will show file information.
<b>Copy</b>	Copies current selection into clipboard	<b>Views</b>	Switches between various types of views for displaying window information.

### WINDOWS NT EXPLORER (continued)

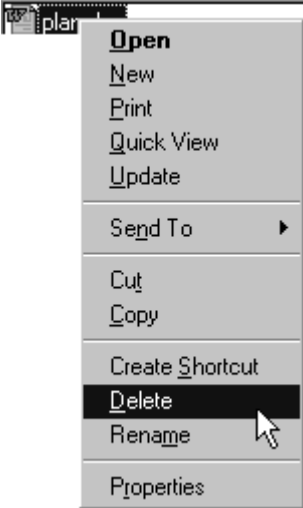


Windows Explorer allows the user to perform various features through the **File** menu.

- To **Open** a file, select the item on the file list side of the window. Then go to the **File** menu and select **Open** to open up the contents of that selection (if there are more than one item in that selection, a new window will appear displaying those items).
- You can select the option **Send To** to place a copy of the currently selected item in the folder or disk that is selected from this menu.
- **New** creates a new file within the application that is selected.
- **Create Shortcut** is useful to easily access the item that is selected.
- **Delete** and **Properties** are the same functions as the icons located at the top of the window.
- **Rename** allows the user to change the name of the selected item.
- **Close** will close the application, file, or current window that is opened.



### FILE MANAGEMENT

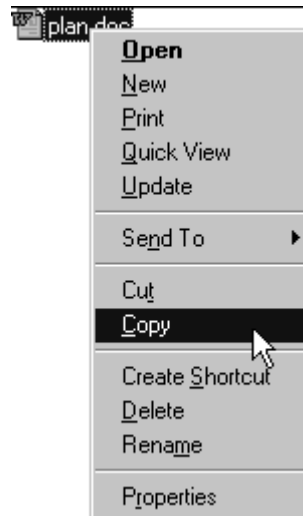
Unlike Windows 3.x, Windows NT provides several ways of *removing* unwanted files.

<p>1. While you are in <i>Windows Explorer</i>, right click on the file(s) you want to delete and choose <b>Delete</b> from the popup menu. If you are certain you want this file to be deleted, select <b>Yes</b> from the window asking "Are you sure?".</p>	 <p style="text-align: center;"><i>right-mouse click</i></p>	<p>2. You can also select the <b>Delete</b> function from the <b>File</b> menu inside <i>Windows Explorer</i>. (see above)</p>	<p>3. Another option is to click once on the file(s) you want to delete, hold the mouse button down, and drag it to the <b>Recycle Bin</b> located on the desktop. Your files are still there in the Bin until you manually request it to empty the <b>Recycle Bin</b>.</p>	<p><b>Before Delete</b></p>  <p style="text-align: center;">Recycle Bin</p> <p><b>After Delete</b></p>  <p style="text-align: center;">Recycle Bin</p>
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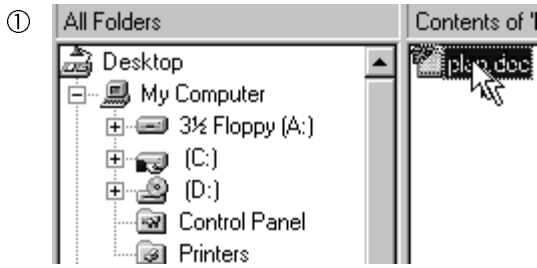
## FILE MANAGEMENT

To copy or move files, go into *Windows Explorer*. Then select the file(s) you want copied/moved by clicking once on the item(s). To select more than one item that is located consecutive to each other, hold the *shift* key down while clicking on the items. If you want more than one item that NOT located consecutively, hold the *Ctrl* key and just select the necessary files.

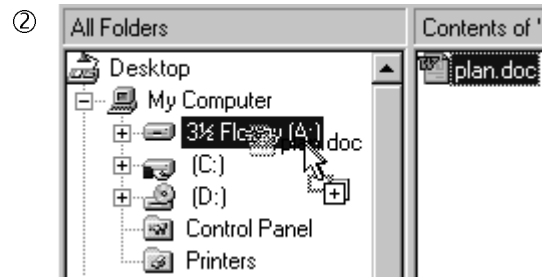
Then click the right mouse button on the file(s) and select **Copy** from the pop-up menu or press **Ctrl+C**. Locate the destination where you want to copy/move the files to. Click on the right mouse button again and select **Paste**, or press **Ctrl+V**. To move file(s) without leaving a copy in the original location, click on **Ctrl+X** to **Cut** the item out. Then **Paste** item(s) into the respective location.



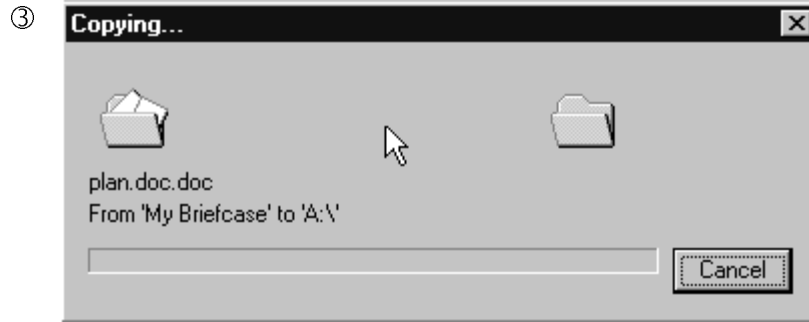
Another way of moving files is to select the item(s) by clicking once, and then drag the item(s) to the new location in the directory listing side:



Select item to move.



Drag item to new location.



Progress of file being moved.

## USEFUL UTILITIES

### Copy and Format Disks

In Windows NT, copying and formatting disks are now under the respective disk icons in *Windows Explorer*. To copy or format a disk, right click on the disk. Then choose **Copy Disk** or **Format**



When you choose to copy a disk, you will be presented with a box showing *Copy From..* and *Copy To*. Select the appropriate drives. Please note that if you only have one disk drive, you will be copying the disk onto the same drive, which will give you an error message.

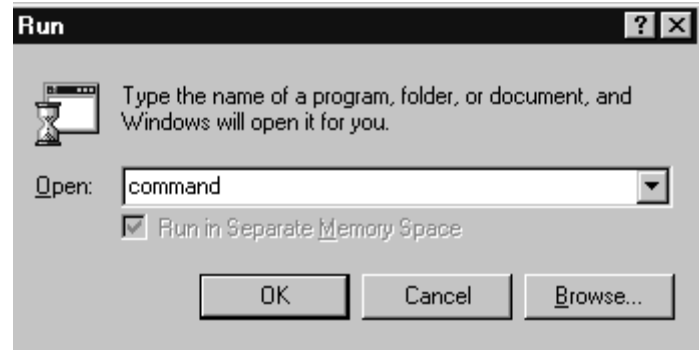
When you **Format** a disk, you will see a dialog box pop up with the disk's information. If the information looks proper, go ahead and select **Start** to format the disk.

### DOS (Disk Operating System)



In order to get the information off of a disk, a PC needs a disk operating system (DOS). The usual DOS is Microsoft DOS (MS-DOS).

If you are a former DOS user, you can still access DOS by going to the **Start** menu and then the **Programs** folder. Then choose **Command Prompt**. This will bring you directly into a window with the DOS interpreter loaded. Another way of accessing DOS is by going to the **Start** menu and then choosing **Run**. When the box pops up, type in `command`.



When you see the interpreter, you can type in commands to manipulate and access files inside your computer.

To interact with the computer, you will type a command and hit the *enter* key. For example, to show the files and directories in your current location on the disk type `dir`.

To switch to a different disk drive, enter the letter of the drive followed by a colon. For example, to switch to the hard disk type `c:`. To change to a different directory you can use the `cd` command (short for *change directory*). For example, to change into the directory named *Windows*, you could use the command `cd \windows`. To go to the root directory (the directory that contains *all* other files and directories) use the command `cd \`. To make a new directory use the `md` command and to remove a directory use the `rd` command. For example, you can type `md foo` or `rd bar`.

To copy files from one directory use the `copy` command. For example, `copy c:\windows\stuff.doc c:\backup\stuff.bak`. This copies the file *stuff.doc* from the *windows* directory into a file called *stuff.bak* in the *backup* directory. To rename a file use the `ren` command. Typing `ren foo.a bar.b` would

rename the file *foo.a* into *bar.b*. To delete a file use the *del* command, as in *del homework.doc*.

## USEFUL UTILITIES (continued)

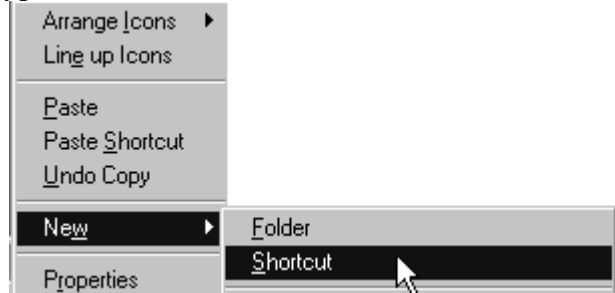
If you would like to copy a whole floppy disk onto another floppy disk you can use the *diskcopy* command. for example *diskcopy a: b:* copies the contents of the disk in drive a: onto the disk in drive b:. It is important to note that this can only be done if the two disks are of exactly the same type, for example two 3.5" double-density disks.

The final MS-DOS command is the format command. This command prepares a disk for use by MS-DOS. Be careful, though, because this command **erases everything** off of the disk. To prepare the disk in drive a: for use, you would type *format a:*.

### Shortcuts

Windows NT allows users to create and use various types of shortcuts.

First, users can create a quick shortcut link on the desktop to a commonly used program. To do so, right click on the desktop and then select **New** from the pop-up menu. Then choose **Shortcut**. You will then see a dialog box asking you the location of the file. Type in the pathname of the program you want to link to. If you do not know the exact pathname, click on the **Browse** icon to search for it.



Another type of shortcut allows users to perform functions without going through a series of menus.

- Users can *right-click* on an area of the screen where they are working to access a quick menu.
- When *Windows Explorer* is loaded, users can use the following shortcuts:

<b>Backspace</b>	Moves up to next folder level	<b>F2</b>	Rename a file
<b>Ctrl-A</b>	Select all objects in current folder	<b>F3</b>	Invoke find utility
<b>Shift-Delete</b>	Deletes w/o recycling	<b>F4</b>	Open folder list (on toolbar)
<b>Alt-Enter</b>	Open properties for object	<b>F5</b>	Refresh current window

- The following command shortcuts can be used anytime:

Switch between programs	<b>ALT+TAB</b>
Cycle through programs in the order of startup	<b>ALT+ESC</b>
Display <b>Start</b> menu	<b>CTRL+ESC</b>
Move through items of a menu	<b>TAB</b>
Launch selected item	<b>SPACE BAR</b>
Copy elected item to clipboard	<b>CTRL +C</b>
Cut item to clipboard	<b>CTRL +X</b>
Paste item from clipboard	<b>CTRL +V</b>

## Conclusion

By this time, we hope that you have a fairly good idea of some of the commonly used features of Windows NT/95/98. Even though there were plenty of features that were not covered, we hope that you will find all of the information presented useful. If you have any questions, please ask the Instructor or Roamer. Also, try to experiment with the topics covered, and see what you can create as well.

Remember to fill out an evaluation before you leave, and thank you for attending Introduction to Windows NT/95/98.

