# APPENDIX C. Managing Files and Folders

Define the Problem = Organizing, storing, and retrieving information.

Solution Strategy = Use an organizational strategy analogous to historic office paper file folders and filing cabinets. Create and name files, copy and move them, change names, delete items and recover deleted items, and backup in case of accidental loss or failures.

The storage capacity of newer hardware devices is so great users need easier and more powerful ways to identify, find, and access information. Like any office filing system, the computer operating system must organize and inventory all stored information. Most operating systems organize information in a hierarchical structure referred to as a directory, catalog, or folder. It is critical that you understand the information management concept and be able to adjust and organize it to meet your specific needs.

Early personal computer DOS operating systems used the nomenclature "catalog" to look for where files had been stored on a diskette and had very restrictive rules for naming files. MS-DOS and early versions of Windows used the terminology "directory" and "directory tree" to organize where files were stored. The common terminology used in business offices has now been adopted by ***Windows 95/8/2000/Me/XP/Vista*** and ***Windows NT*** into the computer operating system environment. The familiar concept of documents stored in file folders is now used. To move something from one place to another is done by "cut" and "paste," while duplicating something from one place to another is done by "copy" and "paste." ***Windows*** allows you to graphically add and delete folders or cut, copy, paste, and delete files within a folder. Descriptive file names can be used. File types can be identified by name extensions or graphical icons. Folders and files can be easily opened to view their contents, and deleted files are saved in a recycle bin from which they can be recovered until the "trash" is emptied.

***Windows*** provides two different programs that allow you to create and navigate through the organizational structure used to store and retrieve information. "***My Computer***" and "***Windows Explorer***" both do similar things, but in slightly different ways.

## Viewing Folders and Files

A folder is a separate area on your system's storage device that is set up to organize and store other folders, files, and programs. It is analogous to a file folder in a filing cabinet; it is a place to put items. Folders can be put inside folders and organized into a hierarchical "tree" structure. When ***Windows*** was installed on your computer, several folders were automatically created on the internal hard disk drive that keeps the operating system files organized and separate from other files. A "path" is created through a series of folders and sub-folders, represented by open and closed file folder icons, to individual files or documents.

## C.1 USING *My Computer*

← *2000* & *XP* →

***My Computer*** is a graphical program that allows you to create a file-folder structure, view, and organize your system. To start ***My Computer***, double-click the ***My Computer*** icon on the desktop. A ***My Computer*** window will appear similar to the one's illustrated in Figure C.1.a. for ***Windows 2000*** and Figure C.1.b. for ***Windows XP***.

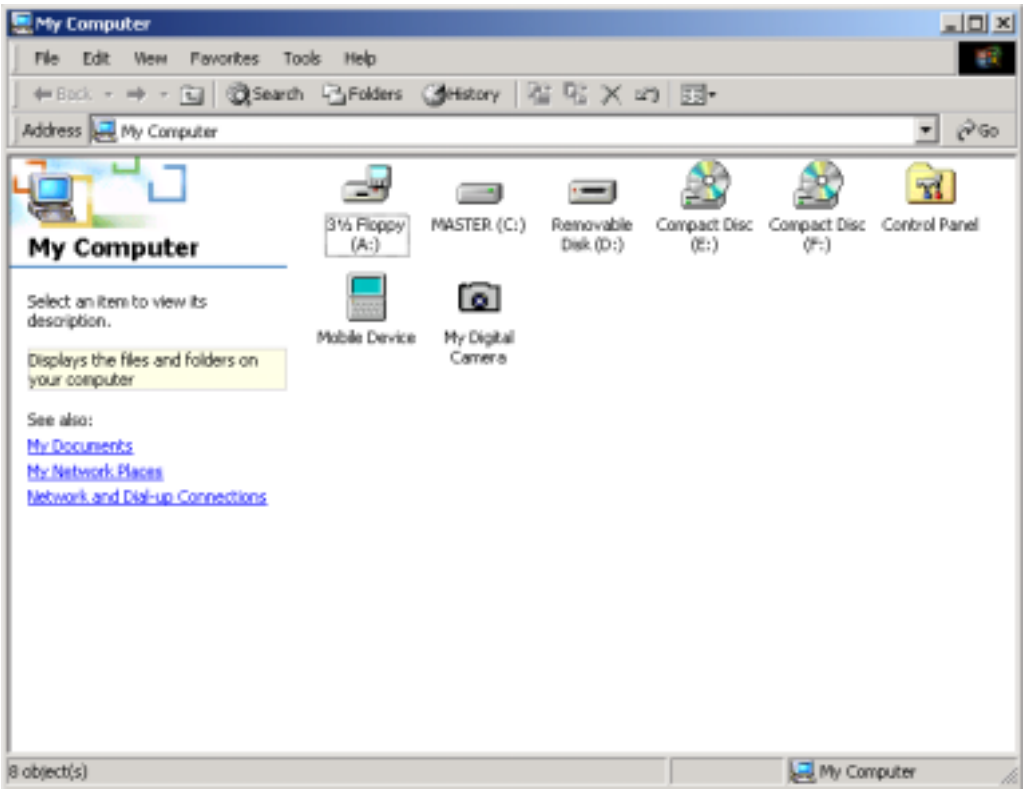



Figure C.1.a. The ***Windows 2000*** My Computer Window.

The way in which the contents are displayed can be changed to suit your needs and preferences. Select View from the menu bar to display the options available:

- whether various **Toolbars** ▸ and the **Status Bar** are displayed can be toggle switched ✔ on or off;
- one of four contents displays of • **Large Icons** (illustrated above), **Small Icons**, **List**, or **Details** can be selected;
- the sequence in which the contents are displayed can be selected with Arrange Icons ▸ by **Drive Letter**, **Type**, **Size**, **Free Space**, or **Auto Arrange**;
- whether the icons are manually moved around the window or automatically **Line up Icons** is an option;
- as well as **Refresh** which updates the display to show current status after changes.

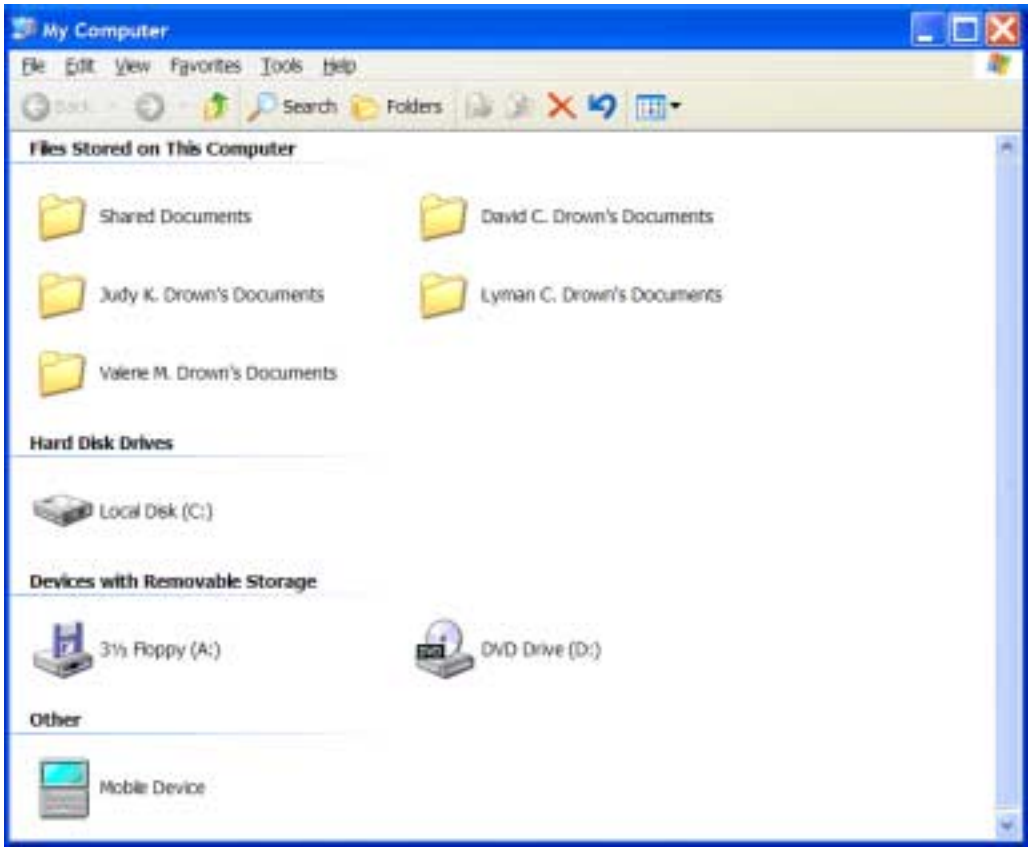



Figure C.1.b. The ***Windows XP*** My Computer Window.

⇒ ***Try This!*** #C-1 **My Computer** ☞ Determine the resources connected to your computer.

Define the Objective = Explore the various ways to view contents of a storage device.

- Prepare a WordPad document listing the answers to the ***?***'s.
  - ∗ Open ***My Computer***.
  - ∗ Click **View** and then toggle ✔ the "Standard Buttons" and "Address Bar" Toolbars on.

***?*** What are the devices {disk drives and other physical resources} connected to your computer***?***

- ∗ Double-click the **drive C:** icon to open a window showing the contents of the hard disk drive C.
- ∗ Double-click the **WINNT** folder in ***Windows 2000*** or the **WINDOWS** folder in ***Windows XP***.
- ∗ Find the a folder in the **My Documents** structure and display the contents.
- ∗ Click **View** and experiment with the different tool-status bar and viewing options. The last options you use will become the default options the next time you start My Computer from your profile.
- ∗ Click **Tools** and then click **Folder Options…** .

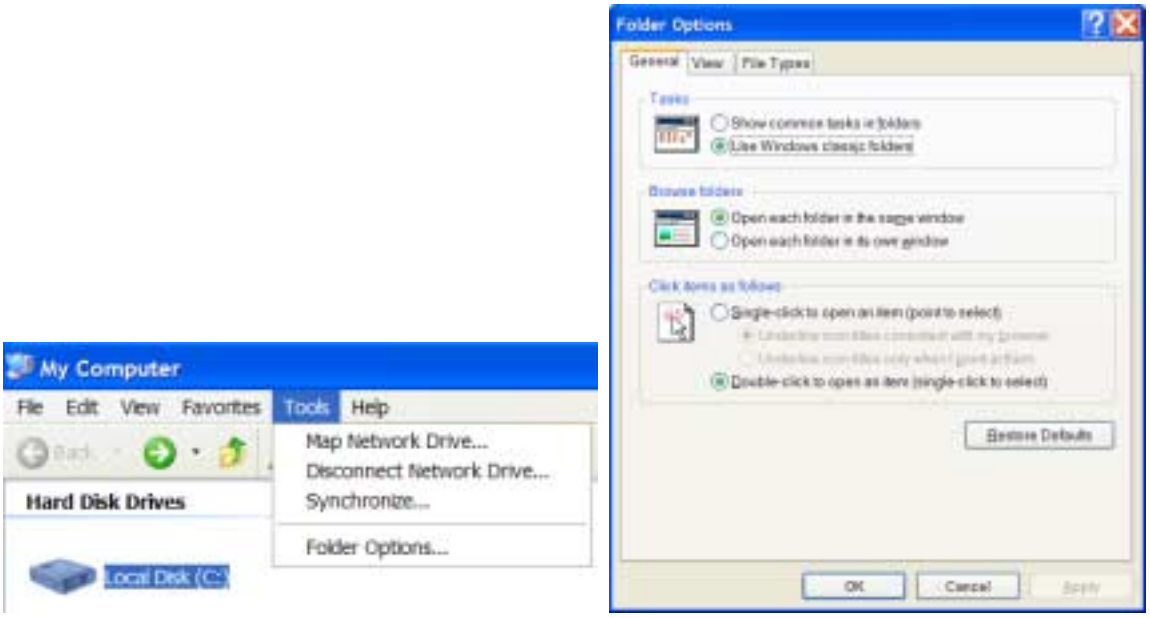



Figure C.2. The ***Windows XP*** Tools Menu and Folder Options.

***?*** Under the "General tab," what are the four selection topics ***?***

- ∗ In the "Browse folders" box select your personal preference
  - ∗ Open each folder in the same window
  - ∗ Open each folder in its own window
- ∗ Under the "View tab," what are the two selection topics ***?***
  - ∗ In the "Advanced settings**:**" window,
    - ∗ Check ☑ Display full path in address bar
    - ∗ Uncheck ☐ Hide file extensions for known types
  - ∗ Click OK to accept these changes and return to the WINNT folder contents and evaluate what happened
- ∗ Return to the **Tools** / **Folder Options…** / select your personal preferences
- ∗ If you are in the "own window" mode, close all windows except the original "My Computer" window displaying the drive devices attached;
- ∗ If you are in the "same window" which changes with each successive window selected, activate the Toolbar menu and use the "Up One Level" folder↵ button to back up, or use the "View" / "Go to ▸" to go to the "My Computer" window displaying the drive devices attached.
- ∗ Return to the desktop.

### C.1.1 Mapping Links to Drives and Folders *on computers wired into a network*

The "My Network Places" icon allows you to access resources throughout the entire network similar to the way ***My Computer*** navigates device resources directly connected to your individual computer. It is possible to map links to other network resources and connect them to your computer so that they appear in the My Computer window. These connections can be automatically restored at logon if desired. Mapping is done from the My Computer window by selecting "**Map Network Drive…**" under the **Tools** menu, which activates a dialog window similar to the one diagramed in Figure C.3

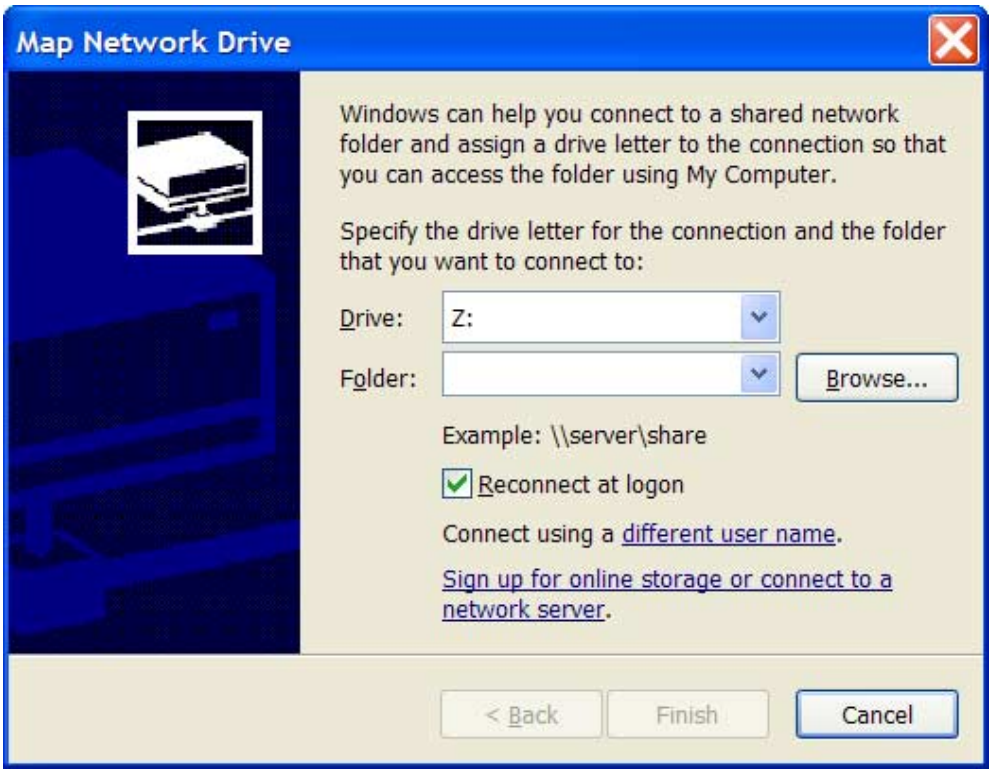



Figure C.3. Diagram of ***Map Network Drive*** window.

Mapped resources are assigned device letters similar to the way the floppy diskette drive is designated **A:** and the hard drive is designated **C:**. When mapping a drive the default letter assigned is the next available letter unless a specific letter is designated from the drop-box list of available letters.

### C.1.2 Creating Shortcuts

Shortcut icons make it easier to access the resources (drives, folders, programs, etc.) that you use most frequently. Shortcuts can appear as icons on the desktop or as items added to a menu folder. Double-clicking a desktop shortcut icon opens the resource window or executes the program.

To create a desktop shortcut, first open the window containing the item you want. Then there are two methods to create the shortcut**:**

- Right-click on the item to display a pop-up menu; select "Create Shortcut" and follow the dialog box instructions.
- or, right-click the item's icon and hold down the right mouse button as you drag the icon to the desktop. Release the mouse button when the icon is over a blank area of the desktop to display the Shortcut pop-up menu. Select "Create Shortcut(s) Here" to create the shortcut.

### C.1.3 Creating New Folders

Folders are areas created on disks to store and organize files, programs, or other folders to further organize groups of files. Two methods to create a new folder once ***My Computer*** has been opened and a particular drive device has been selected are:

- Right-click on a blank space inside a drive or folder window to display a pop-up menu;
- or, left-click on File from the menu bar to display a similar menu as illustrated in Figure C.4.

Then click New, followed by selecting Folder; a "New Folder" icon appears in the window with the folder name highlighted and boxed. To give the folder a different name from the default, type in the desired name and press Enter↵ to save the folder with the new name. You cannot use duplicate folder names within the same folder or root directory of a device. If this is not the first new folder you have created in the same area using the default folder name, the new folder name will appear as "New Folder (*X*)" where *X* is the number of the new folder created.

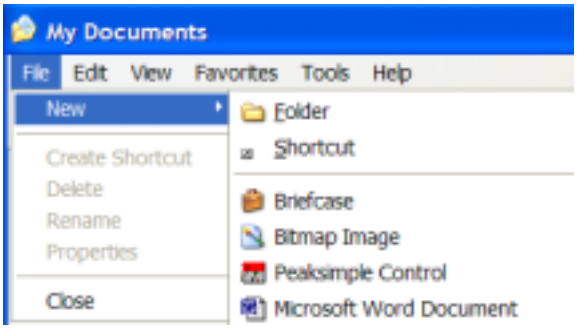



Figure C.4. Creating a New Folder.

⇒ ***Try This!*** #C-2 **Create Folders** ☞ Start My Computer.

Define the Objective = Create folders to store materials for different classes.

- ∗ Double-click the C: drive icon and navigate your way to your personal space, or double-click the drive letter assigned to it (referred to as Personal: in the rest of this discussion) if you mapped a link in Try This! C-2 to open a window showing the contents of your personal storage space on your CHE Department account.
- ∗ Create 3 new folders named "Chemistry", "Math", and "ChE 123".

* Arrange the icons by selecting "View" on the menu bar and pointing to "Arrange Icons" to display a second menu.
* Click "by Name" to sort the icons alphabetically by name; repeat clicking "by Date" to sequence them by the date they were created or last modified.
* Return to the desktop.

Folders can be created on drive devices (any of the icons shown in the "***My Computer***" window), or as sub-folders inside other folders, or they can be created directly on the desktop (in which case they are actually placed as subfolders inside the C:\WINNT\Desktop\… directory).

On a network system, the network administrator has control to set access permissions on each device or deny access. A user can be authorized to access a device with full read and write capability; or access can be restricted to "Read Only" (the ChE123 class folder is set in this mode so that students cannot accidentally change or write over master data files, only the instructor can write to and modify information in his folder) or "Write Only" (the "Turn In Projects" folder is an example of this, where students can submit assignments by writing to this folder but they can not read or see anything in the folder, only the instructor and TA can read what is there).

### C.1.4 Copying and Moving Files

Files or entire folders can be copied or moved using ***My Computer*** by either pointing to and dragging the file or folder icon from one location to another, or by using the Cut (or Copy) and Paste commands.

To copy or move a file or entire folder in ***My Computer*** using the Cut (or Copy) and Paste commands method, highlight the icon (or select multiple icons by simultaneously holding the "Ctrl" key and clicking on the desired items) of the file or folder. Then click Edit on the menu bar and then click either Cut on the pull-down menu to move the item(s) or Copy to duplicate them. The files or folders selected will be cut and moved, or copied to the "Clipboard." To paste the previously cut or copied items to a new location, open the window for the location where you want to place the items as the active window. Click Edit on the menu bar, and then Paste from the pull-down menu. The items residing on the Clipboard are now placed in the new location.

To use the point-and-drag method, first open a window on the location where the items currently reside and then a second window for the new location they are to be placed. Make sure both windows are visible on the screen. Next click on the icon(s) of the files or folders you want to copy or move (Ctrl-click to select multiple items). Then hold the right mouse button down and move the shadow image of the items to the correct destination drive, or folder window, or icon. When the shadow image is in or over the destination window or icon, release the mouse button to display a pop-up menu. To move the items click **Move Here**; to copy the items click **Copy Here**. The option displayed in **bold** is the previous point-and-drag action you did and the current default action for subsequent point-and-drag operations. It is possible to conduct move or copy operations after selecting the items by holding the left mouse button down (instead of the right) and dragging the shadow image to

the destination and releasing the mouse button; no pop-up menus appear and the item is directly moved or copied, whichever is the previous default action.

### C.1.5 Renaming Files or Folders

Items can be renamed using ***My Computer*** by selecting (clicking on to highlight) the file or folder, then clicking File on the menu bar, and then Rename. Alternately, a right-click on the item will generate a pop-up menu from which Rename can also be selected. Yet another technique is to single left-click the item name and then pause a few seconds (longer than the double-click timer) and then single left-click again, this will directly enter the selected name into the rename edit mode. The name of the item will be highlighted inside a box outline and you can type in a new name or edit the current name; pressing Enter↵ or left-clicking another item implements the change.

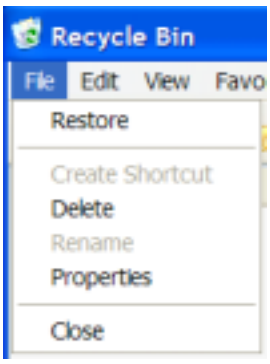
A file or folder name can contain up to 255 characters, including spaces. It cannot contain the following 9 characters: \ / : * ? " < > |

### C.1.6 Deleting Files or Folders

***My Computer*** offers at least four ways to delete a file or a folder and all its contents. 1) You can point to (clicking on to highlight, or Ctrl-click to do multiple items) the icon(s), then click File on the menu bar, and then Delete. 2) You can point to the item in the window, left-click it, and then press the Delete key. 3) You can point to the icon, right-click to obtain a pop-up menu and then left-click Delete. 4) You can also point to the icon and hold the left mouse button down and drag the shadow image of the icon to the ***Recycle Bin*** trash can and release the button (same as point-and-drag moving items except the destination is now the trash can!). All methods display the same Confirm File-or-Folder Delete dialog box. Click the Yes button to delete the items listed, or click the No button to cancel the delete command.

### C.1.7 Recovering Deleted Files or Folders

Deleted items from the internal hard drive have not really been completely deleted in ***Windows***. They have actually been moved to the ***Recycle Bin*** on the desktop. From the desktop, double-click on the ***Recycle Bin*** icon to display a window showing the contents of the trash can. Items can be recovered by selecting (clicking on to highlight) the file(s) or folder(s), then clicking File on the menu bar, and then Restore as illustrated in Figure C.5.a; the items will be un-deleted and restored to their original locations from which they were deleted. Alternatively, the selected items can be Deleted a second time to completely remove them and free the storage space for new items, or Empty Recycle Bin can be used to delete all the items in the trash can as illustrated in Figure C.5.b.



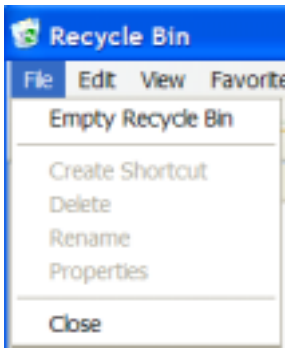




Figure C.5. a.) Restore from Recycle Bin b.) Empty Recycle Bin.

Deleted items from removable storage devices like floppy diskettes, ***Zip*** disks, USB flash memory sticks, etc., are not moved to the recycle bin, and hence, are not recoverable and are completely deleted the first time. [ **ChE Dept. LAN** ***Note*** - due to the multiple user, broad public access to the 10 machines in the BEL 345 lab, deleted items **ARE NOT** moved to the ***Recycle Bin***, delete once and they are gone forever. This way the system administrator does not have to go through each machine and the server daily emptying the ***Recycle Bin*** and clearing hard drive space so the machines will function the next day. ]

⇒ ***Try This !*** #C-3 **Recover Deleted Items** ☞ Start ***My Computer*** and open a window to the C**:**\Temp folder.

Define the Objective = Recovery of files which have been deleted.

[ Note - this exercise cannot be done on the **ChE Dept. BEL 345** lab computers (see previous note on deactivated ***Recycle Bin***). It should be a useful tutorial on most stand alone computers. ]

- Create a new folder named "**123student**" and open that folder.
- Start a second ***My Computer*** window and open your personal storage space or the drive letter assigned to it (referred to as Personal**:** in the rest of this discussion).
- Copy the 3 folders named "Chemistry," "ChE 123," and "Math" (created in the previous Try This ! C-2) from your Personal**:** drive to the new C**:**\Temp\123student folder.
- Arrange the C**:**\Temp\123student folder icons by selecting "View" on the menu bar and pointing to "Arrange Icons" and the sort "by Name".
- Save and then copy your ***Word Pad*** Memo document file to the new drive C**:**\Temp\123student "ChE 123" sub-folder. Make a back-up copy of the memo file in both the new drive C**:**\Temp\123student "Chemistry" and "Math" sub-folders.
- Rename the C**:**\Temp\123student "Chemistry" folder to "More Stuff" and rearrange the icons by name again.
- Move the C**:**\Temp\123student folder "More Stuff" to your Personal**:** drive space.
- Delete the "Math" folder from the C**:**\Temp\123student folder.

⇒ ***Try This !*** # C-4 **Recover Deleted Items** ☞ { continued }

* Minimize the C**:** \ Temp \ 123student window.
* Return to the desktop.
* Open the Recycle Bin and restore the "Math" folder.
* Close the Recycle Bin and restore the C**:** \ Temp \ 123student window from the task bar.

**? Is the "Math" folder recovered ?**

**? Is the "Memo" file recovered ?**

***BINGO* !!** = Congratulations, you are now capable of fundamental organizing, getting around, and managing your files and folders using the ***Windows*** operating systems.

* Delete the "C**:** \ Temp \ 123student" folder.
* Close all applications and return to the desktop.

### C.1.8 Backing Up Files and Auto-Save Options

Failures and accidents happen all too frequently when using PC systems. Storage media can become defective and any information stored on it will be lost. Computer viruses can invade systems and corrupt programs, documents, and files. Electrical power failures happen occasionally (particularly during thunder and lightning storms causing brief voltage surges and micro-second outages which cause computers to turn off and re-boot) and all work done since the last time files were saved to permanent media are instantaneously lost forever. Hence, to minimize the amount of work that must be re-worked to regenerate damaged or lost files, **IT IS A GOOD HABIT TO DEVELOP** to frequently make **BACK-UP COPIES** on different storage devices or media.

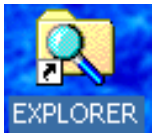
Many ***Windows*** applications programs have automatic back-up save features that can be activated from Tools on the menu bar:

- For example in ***Word 2000*** select Tools, Options…, the Save tab, Save Auto Recover info every**:** "*x*" minutes.
- For example in ***Excel 2000*** select Tools, Add-Ins…, check the ✔ Autosave Add-in; this places the AutoSave … feature in the Tools menu where it can be set to Automatic Save Every "*x*" Minutes.

If the application, or ***Windows***, is abnormally terminated without closing all files, when the application is re-opened it attempts to recover these files. The "auto-saves" operate in the background and usually do not noticeably slow down the operation of the program. Another **GOOD HABIT TO DEVELOP** is to periodically click the Save button on the Toolbar (or press Ctrl+S) to manually save an updated version of the open file. Thus only work done since the last save is lost forever and must be redone unless a power outage or failure occurs during the actual save operation, in which case everything is lost.

Since many times you will be moving your school work between numerous computers and independent systems (the ChE BEL 345 lab, the JEB 321 classroom, various UI public

labs, personal residence systems, etc.), you should **MAKE MULTIPLE BACKUP COPIES** of your work on **DIFFERENT TYPES OF PORTABLE MEDIA**. On many assignments in ChE 123 you will be working in teams and sharing work with classmates; each student is responsible for having a copy of the group's work (the excuse that a team member that doesn't show up one day has your work, is not acceptable for late or missing assignments). **USB Flash Memory** sticks are the most practical and common media currently used. Floppy diskettes (3.5") and Zip disks are outdated media with drives no longer available on many computers. CD-R (one time recordable) disks are reliable, inexpensive, and can be read on most machines with standard CD drives, but CD-RW drives that will write them are rare on public lab computers; CD-RW (re-write) disks can not be read on most standard CD drives, only CD-RW drives, which are not available on student lab computers, will read these disks. **E-mailing** files to yourself and team members as attachments is practical.




## C.2 USING *Windows Explorer* *Windows 2000*

***Windows Explorer*** performs the same basic operations on drives, folders, and files as ***My Computer*** does. The ***Exploring*** window consists of two separate panels, or sections, as shown in Figure C.7. ***Windows XP*** accesses the ***Explorer*** style window from opening ***My Computer*** selecting "View" then "Explorer Bar ▶" and checking ☑ Folders as illustrated in Figure C.6; or by selecting the "Folders" icon on the top menu bar.

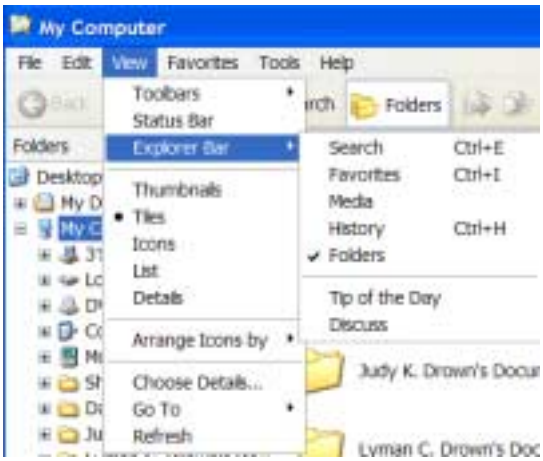



Figure C.6 Accessing ***Explorer*** in ***Windows XP***.

The "Folders" panel on the left shows the contents of the current drive in a hierarchical "directory tree" view. The panel on the right shows the contents of the item selected from the Folders panel. The Folders panel allows you to see the organizational structure of all the storage devices connected to your computer. A ⊞ mark in the box next to a device or folder in the Folders panel indicates that sub-folders reside within that device. Clicking on the ⊞ mark expands the tree to show the next level of sub-folders in the right Folders panel and toggles to a ⊟ mark in the box. Clicking on the ⊟ mark collapses the tree back to the ⊞ form. Clicking on a device or folder name to select it will display the contents of that

folder in the right "contents" panel. Figure C.7.a shows the fundamental desktop structure of a ***Windows 2000*** system with the ***My Computer*** selected and the device structure displayed in the contents panel. Figure C.7.b shows the fundamental desktop structure of a ***Windows XP*** system. Figure C.8 shows the ***My Computer*** tree expanded and the ***Control Panel*** folder selected to display its contents.

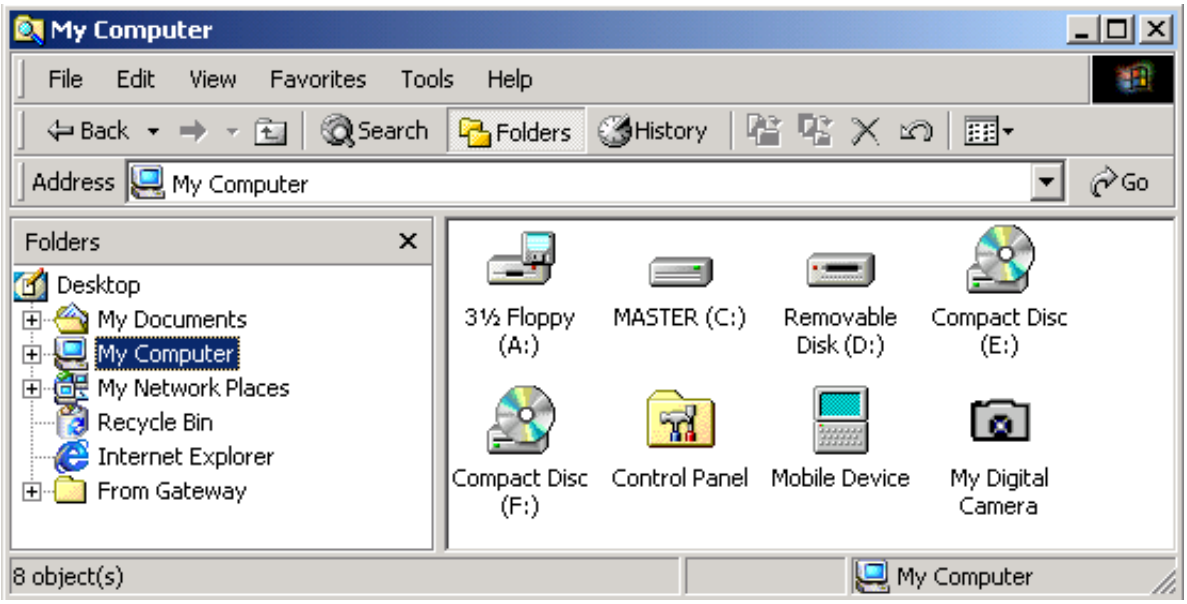



Figure C.7.a Sample ***Windows 2000 Explorer***.

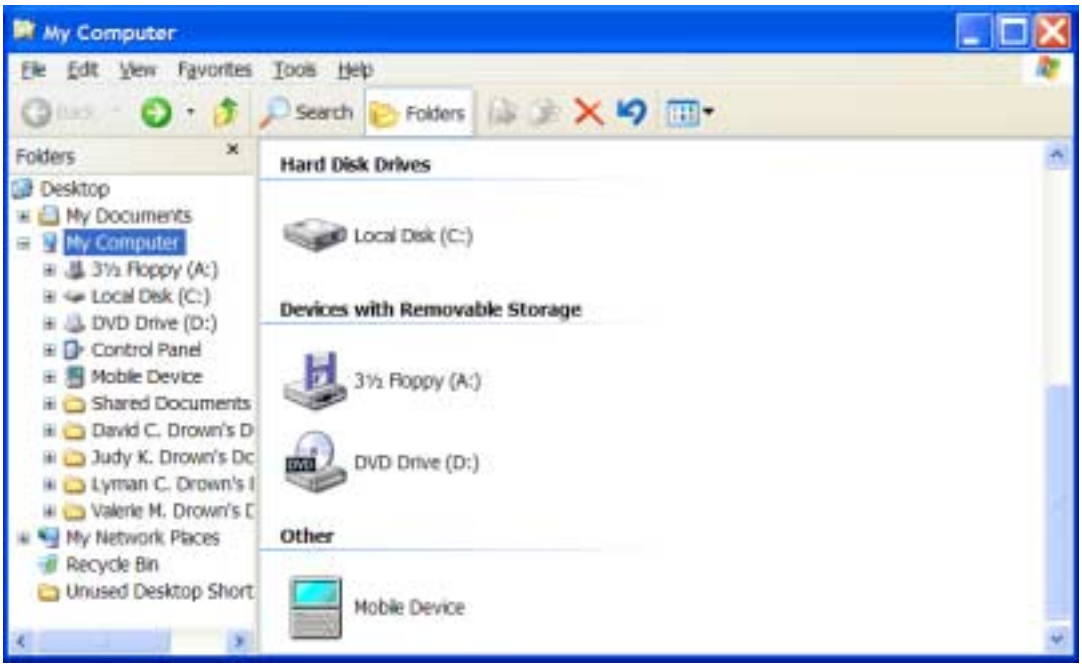



Figure C.7.b Sample ***Windows XP Explorer***.

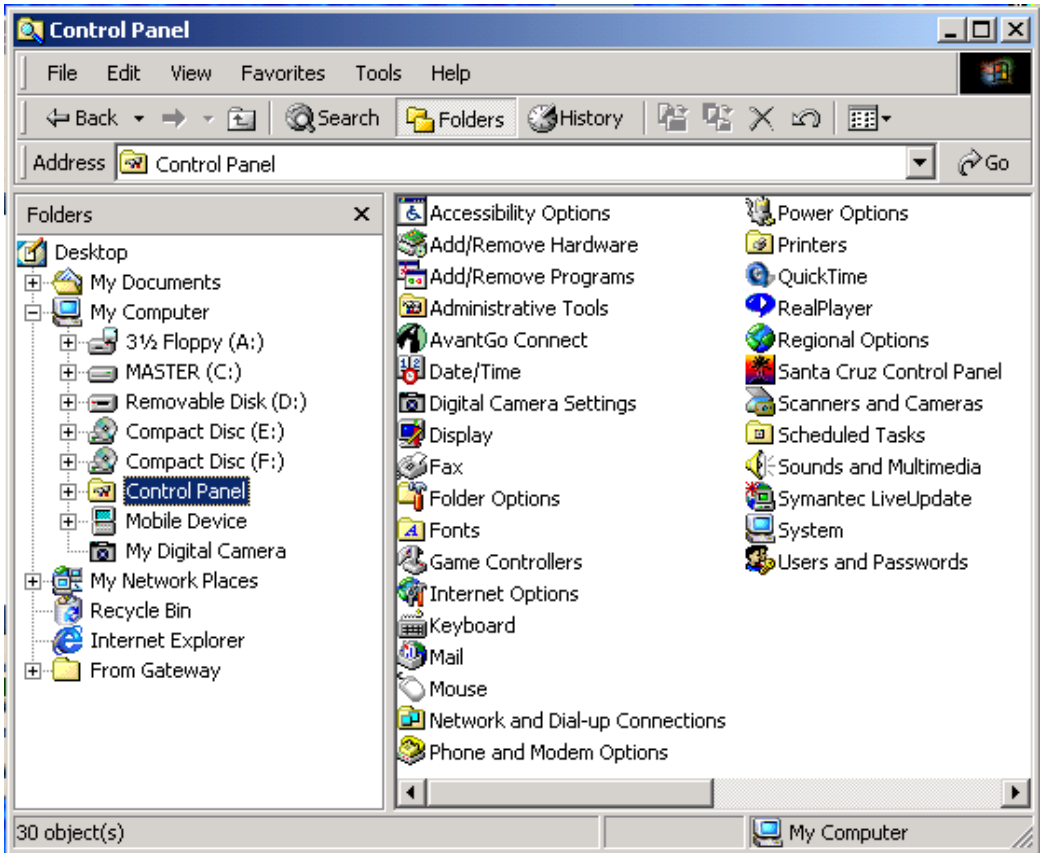



Figure C.8 Sample ***Windows 2000 Explorer*** with expanded directory tree.

If you double-click on a folder in the right contents panel, ***Explorer*** will expand the left Folders tree to make the selected folder the highlighted item and it will display the contents of the selected item in the right contents panel. If an item selected with the double-click in the contents panel is an executable program, such as ***Excel***, the program will execute and start running. If an item selected is a document file from an application, such as an ***Excel*** workbook .xls file, the application will run and open the selected file so it can be viewed.

With ***Explorer*** you can create new folders in the selected right contents panel using the File / New ▸ Folder menu sequence. Folders and files can be copied or moved by selecting them in the right contents panel and holding the left button while dragging them to a new location folder in the left Folders panel. The Cut, Copy, and Paste menu or tool bar buttons can also be used to accomplish these actions within ***Windows Explorer***.

## C.3 SUMMARY

The fundamental tasks you should be capable of manipulating with the ***Windows*** operating system include navigating through the Network, mapping links to drives, creating and naming files and folders, then copying, moving, renaming, and deleting them. Either ***My Computer*** or ***Windows Explorer*** can be used to accomplish these operations. It is also handy to be able to recover deleted items from the ***Recycle Bin*** (on machines where this is operational) and to make back up copies of your work on different storage devices.

Minimum skills you should be fluent in doing before proceeding with the ChE. 123 course include:

| | | | | |
|---|---|---|---|---|
| ✓ | Navigating | = | section C.1 | Try This! # C-1. |
| ✓ | Creating Short Cuts | = | section C.1.2 | |
| ✓ | Creating Folders | = | section C.1.3 | Try This! # C-2. |
| ✓ | Copy, Move, Rename, Delete, Recover | = | section C.1.4→7 | Try This! # C-3. |
| ✓ | Backing Up | = | section C.1.8. | |

Minimize the amount of work that must be re-worked to regenerate damaged or lost files, **IT IS A GOOD HABIT TO DEVELOP** to frequently make **BACK-UP COPIES** on different storage devices or media.

A file or folder name can contain up to 255 characters, including spaces. It cannot contain the following 9 characters: **\ / : * ? " < > |**

Also beware that:

**# !** these give the web FTP (File Transfer Protocol) interface problems