

Chapter 6

Application Software

Introduction

Application software includes all programs designed to perform specific tasks or applications. Many applications are needed today for both individual and business requirements.

This chapter discusses some general characteristics of application software. Then the chapter describes some of the commonly used application programs such as word processor, spreadsheet, database, presentation software...etc. It should be noted that, the application program introduced in this chapter will be practiced in the laboratory sessions of this course.



The objectives of this chapter:

After completing this chapter, you will be able to:

- Describe what application software is, the different types of ownership rights, and the difference between installed and Web-based software.
- Detail some concepts and commands that many software programs have in common.
- Discuss word processing and explain what kinds of documents are created using this type of program.
- Explain the purpose of spreadsheet software and the kinds of documents created using this type of program.
- Identify some of the vocabulary used with database software and discuss the benefits of using this type of program.
- Describe what presentation graphics and electronic slide shows are and when they might be used.
- Name several other types of application software programs and discuss what functions they perform.

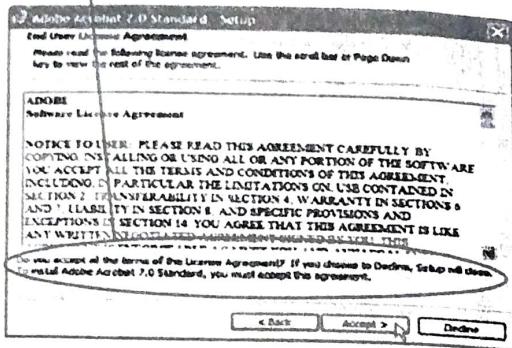
Software Ownership Rights

Ownership rights of a software program specify the allowable use of the program.

- Software license:** It is an agreement, either included in a software package or displayed on the screen during installation that specifies the conditions under which a buyer of the program can use it.

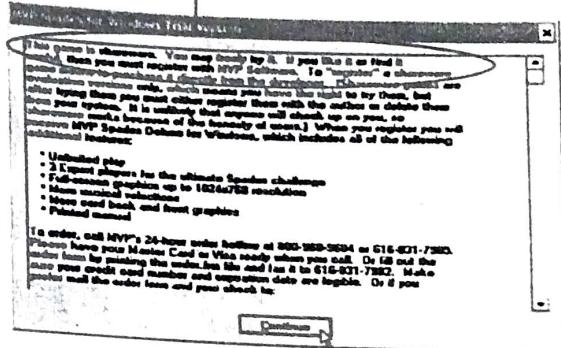
The following Figure shows two types of programs: commercial program and shareware program.

This statement explains that the program will not be installed unless you accept the terms of the license agreement.



COMMERCIAL SOFTWARE PROGRAM

This statement explains that the program is shareware.

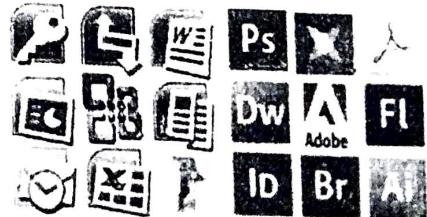


SHAREWARE PROGRAM

Software licenses

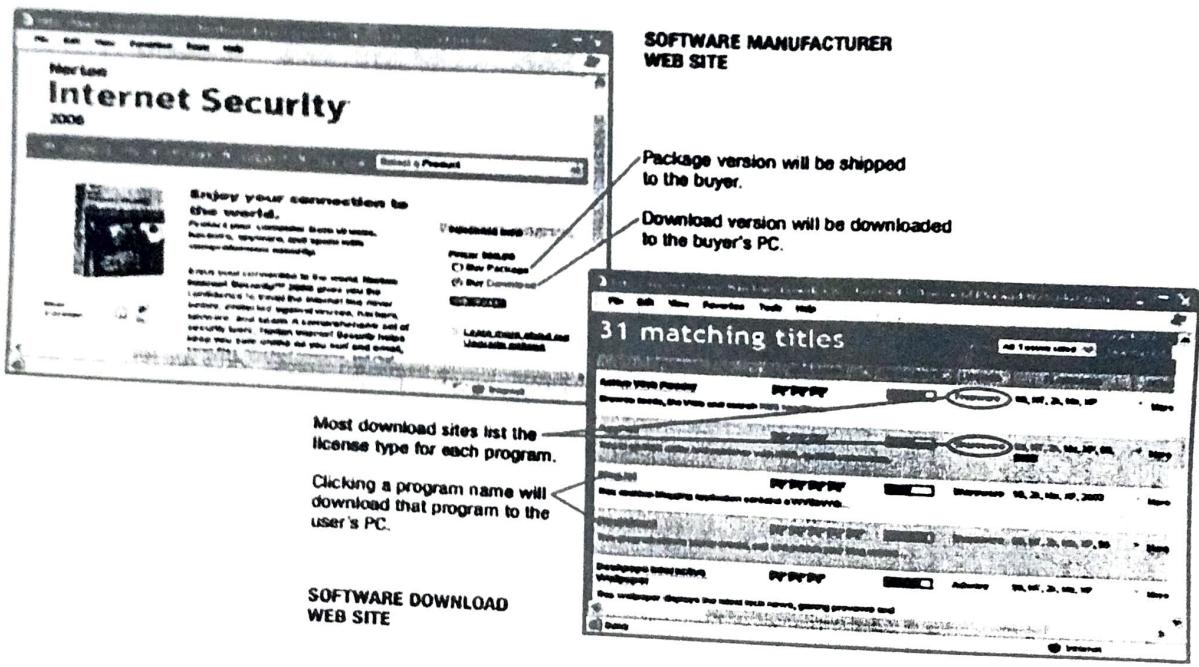
- Commercial software:** copyrighted software that is developed, usually by a commercial company, for sale to others.
- Shareware:** copyrighted software that is distributed on the honor system; consumers should either pay for it or uninstall it after the trial period.
- Freeware:** copyrighted software that may be used free of charge.
- Public domain software:** software that is not copyrighted and may be used without restriction.

COMMERCIAL SOFTWARE

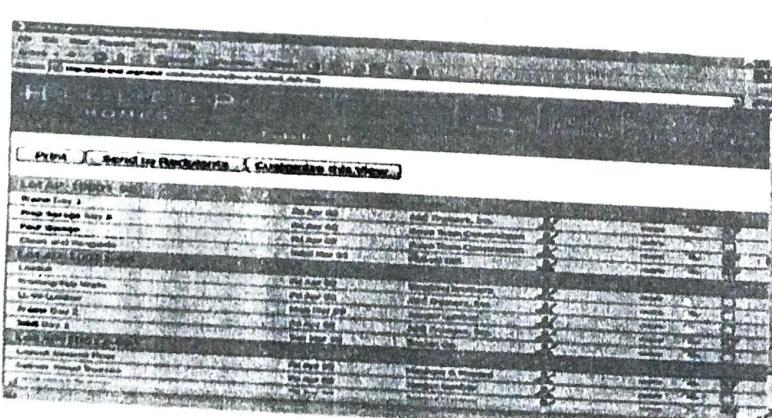


Installed Software vs. Web-based Software

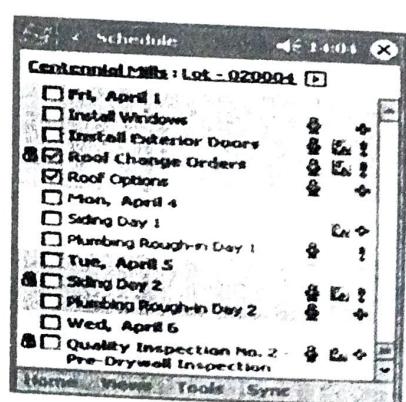
- **Installed software:** installed on the PC before it can be run.
Installed software programs are either.
 - Purchased in physical form.
 - Downloaded from the Internet.
- **Web-based software:** run directly from the Internet.
 - Free (interactive game available through a site).
 - Fee-based (application service provider (ASP)).



Note:



DESKTOP WEB-BASED PROGRAM



HANDHELD WEB-BASED PROGRAM

Web-based software

Software Suites

- **Software suite:** a collection of software programs bundled together and sold as a single software package.
- **Office suites:** (productivity software suites) are used by most businesses and many individuals to produce written documents; typically include:
 - Word processing software.
 - Spreadsheet software.
 - Database software.
 - Presentation graphics software.

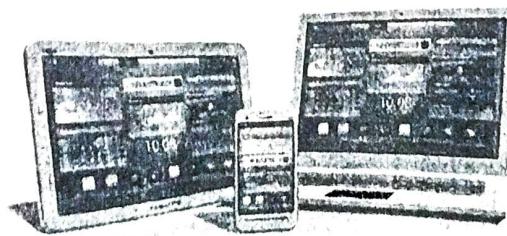


Software Suites

Date of lecture
/ / 20

Desktop vs. Mobile Software

- Handheld PCs and mobile devices require special application software designed for that type of device.
- **Types of mobile software include:**
 - Calendars and address books.
 - Browser, e-mail, and instant messaging programs.
 - Language translators and reference software.
 - E-books and games.
 - Productivity software and specialized applications.
- Some mobile software programs are designed to be compatible with popular desktop software, such as Microsoft Office.



Note:

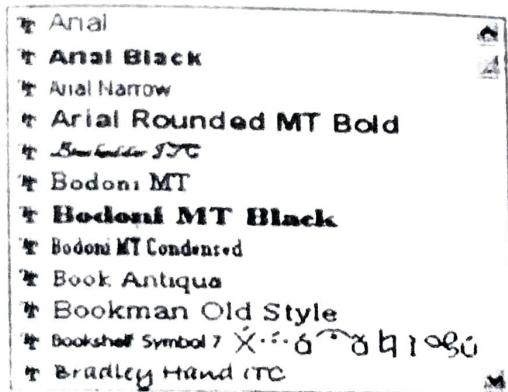
Desktop vs. Mobile Software

Common Software Commands

- Application programs today have a number of concepts and commands in common.
- Editing a document (changing the content of the document).
 - Insertion point: indicates the current location in the document (where changes will take place).
 - Typing text will insert it.
 - Delete and Backspace key will delete text.
 - Text and objects can typically be selected to be moved, copied, deleted, or formatted.

COMMAND	TOOLBAR BUTTON	KEYBOARD SHORTCUT	DESCRIPTION
New document		Ctrl+N	Creates a new blank document.
Open		Ctrl+O	Opens a previously saved document from a storage medium, usually for editing or printing.
Save		Ctrl+S	Saves the current version of the document to a storage medium.
Print		Ctrl+P	Prints the current version of the document onto paper.
Spelling and grammar		F7	Starts the spelling and grammar check for the entire document.
Cut		Ctrl+X	Moves the selected item to the clipboard.
Copy		Ctrl+C	Copies the selected item to the clipboard.
Paste		Ctrl+V	Pastes the contents of the clipboard to the current location.
Undo		Ctrl+Z	Undoes the last change to the document.
Close		Alt+F4	Closes the document. Any changes made to the document are lost if the document wasn't saved first.

- Formatting a document (changing the appearance of the document), such as:
 - Changing font face, size, style or color.
 - Changing line spacing or margins.
 - Adding page numbers or borders.



SAMPLE FONT FACES



SAMPLE FONT SIZES, STYLES, AND COLORS

Changing font face, size, style or color

- Help for a software program includes:
 - Help built into the program.
 - Table of Contents.
 - Index.
 - Search.
 - Online help (via manufacturer's Web site and independent sites).
 - Offline help (periodicals, books, tutorial videos, classes).

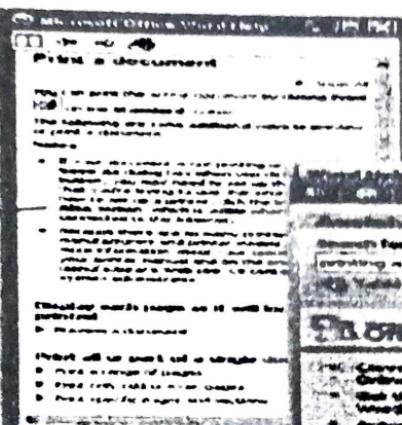
TABLE OF CONTENTS

Organizes help screens into books by topic.

Each book represents a major topic that displays more specific topics when clicked.

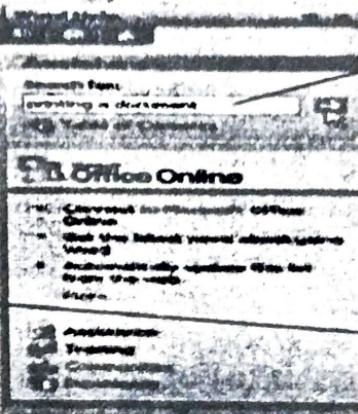
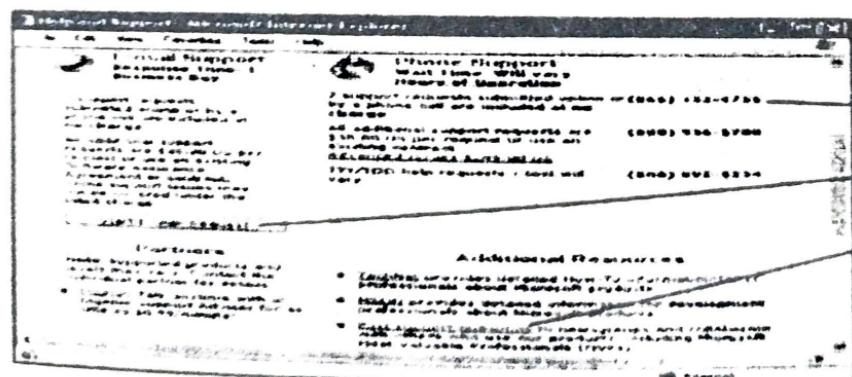


Selecting a topic displays the corresponding help screen.



LIVE HELP

Some software manufacturers offer help via e-mail, phone, live chat, and more.



SEARCH

Let you type in a search topical or a search phrase to see a list of matching topics. This program searches for online help as well.

Typing a search phrase displays a list of matching topics.

Word Processing Concepts

- Word processing is one of the most widely used application programs today.
- Actual commands and features vary somewhat from program to program.
- Important to be familiar with the basic features of word processing and the general concept of what word processing enables you to do.

Date of lecture

Note

➤ What Is Word Processing?

- Word processing: using a computer and word processing software to create, edit, save, and print written documents, such as letters, contracts, and manuscripts.
- Like any document created with software instead of paper and pencil, word processing documents can be retrieved, modified, and printed as many times as needed; common word processors include.
 - Microsoft Word .
 - Corel WordPerfect.
 - Lotus WordPro.

WordPerfect

Corel WordPerfect logo



Microsoft Word logo

Lotus Word Pro⁹⁷

O Melhor Processador de Texto
para se Conectar com
o Mundo Atual!

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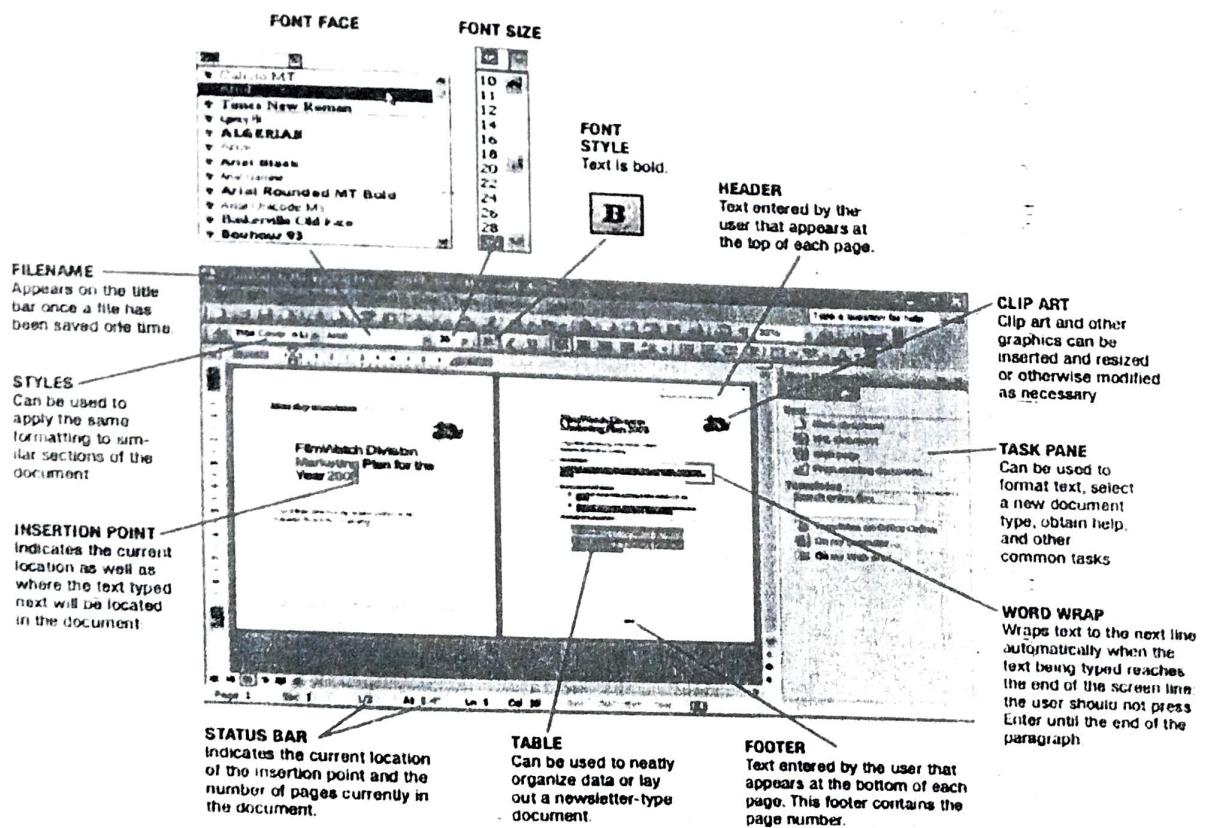
Lotus WordPro logo

➤ Creating a Word Processing Document:

- Word wrap: feature in a word processing program that automatically returns the insertion point to the next line when the end of the screen line is reached.
- Character formatting (font face, size, style, or color).
- Paragraph formatting (line spacing, left and right margins, tabs, alignment, and styles).
- Page formatting (top and bottom margins, paper size, orientation, headers, footers, etc).
- Document formatting (footnotes, end notes, table of contents, index, background, theme).

Date of lecture
/ / 20

Note:



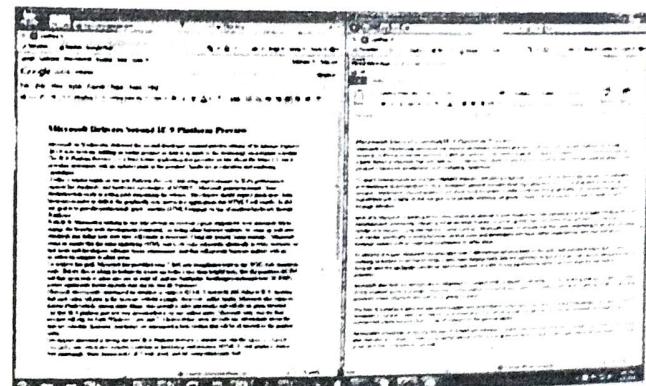
Word Processing Document

➤ Tables, Graphics, and Templates:

- **Tables:** allow content to be organized in a table consisting of rows and columns.
- **Graphics or drawing features:** allow images to be inserted into a document (*clip art*, photographs, drawn images, etc.) and then modified.
- **Templates:** help users create new documents quickly.
- **Wizards:** available for creating documents (envelopes, legal pleadings, calendars, and agendas), as well as for tasks (sending a fax or publishing a Web page).

➤ Word Processing and the Web:

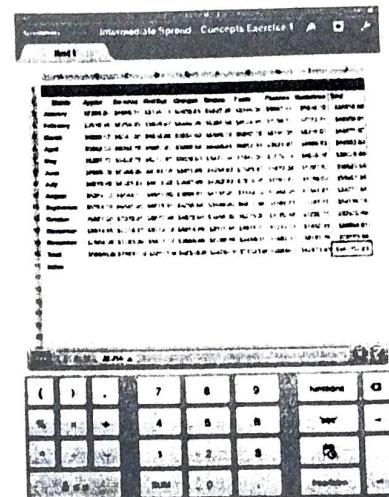
- Most word processing programs today include Web-related features, such as to:
 - Send a document as an e-mail message.
 - Include Web page hyperlinks in documents.
 - Create or modify Web pages.
- Optional file formats for documents created in many word processing programs include:
 - Hypertext Markup Language (HTML).
 - Extensible Markup Language (XML).
 - Single file Web page or MHTML (MIME Hypertext Markup Language).



Word Processing and the Web

Spreadsheet Concepts

- Spreadsheet software: application software used to create spreadsheets, documents which typically contain a great deal of numbers and mathematical computations and are organized into rows and columns.
- Commonly used by a variety of businesses and employees, including CEOs, managers, assistants, analysts, and sales representatives.



Spreadsheet Concepts

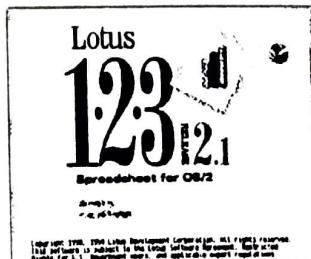
Date of lecture
/ / 20

➤ What Is a Spreadsheet?

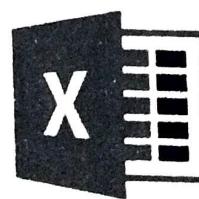
- Spreadsheet: a group of values and other data organized into rows and columns.
 - Contains numbers and formulas, which automatically update the spreadsheet as data in the spreadsheet changes.
 - Worksheet = single spreadsheet.
 - Workbook = multiple worksheets saved in a single file.
- Most widely used spreadsheet programs:
 - Microsoft Excel.
 - Corel Quattro Pro.
 - Lotus 1-2-3.



Corel Quattro Pro logo



Lotus 1-2-3 logo

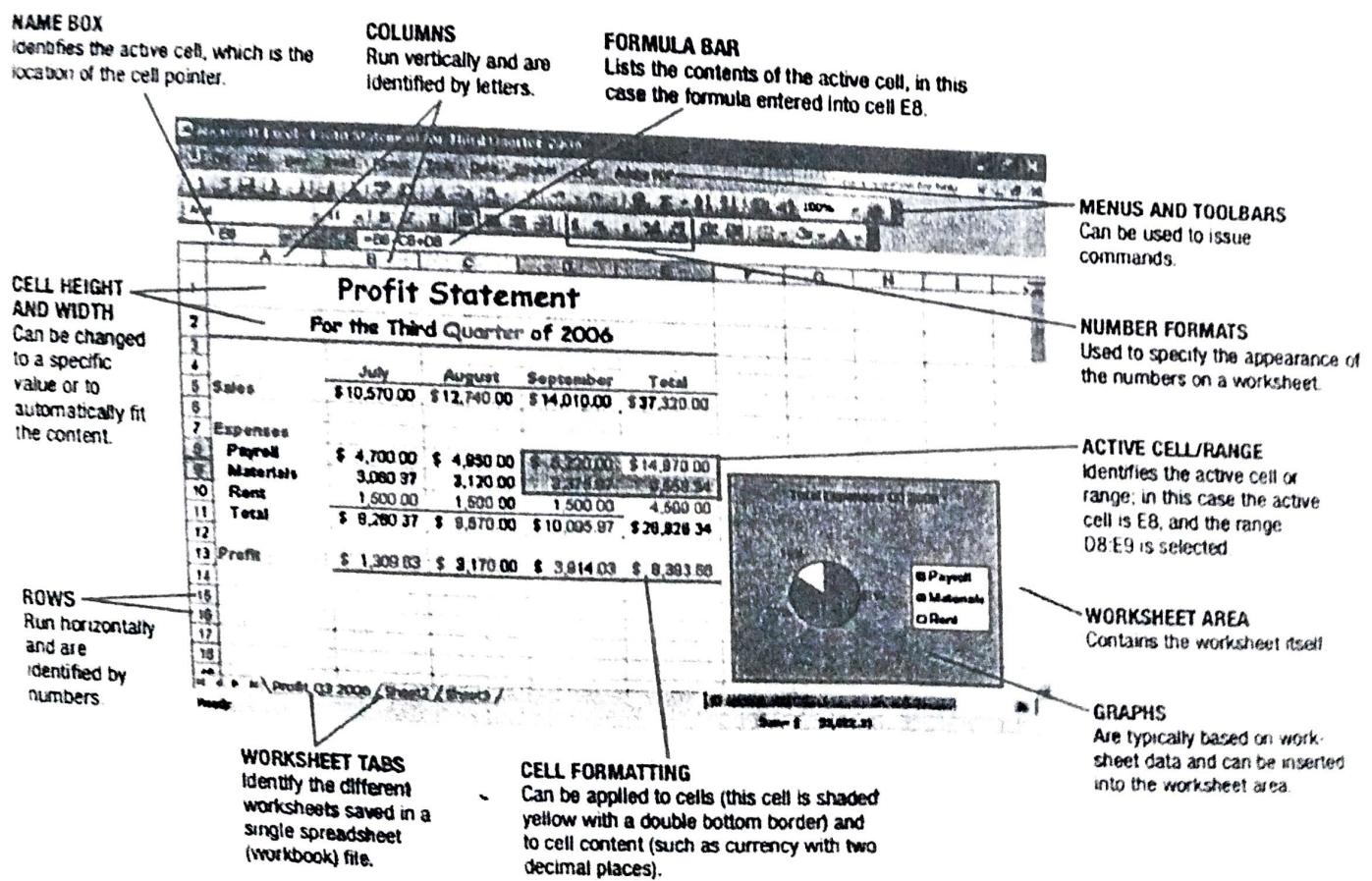


Microsoft Excel 2013

Note:

➤ Creating a Spreadsheet:

- Data is entered into cells (where rows and columns meet).
- Cells are identified by their cell address, such as B4 or E22.
- Cells can contain:
 - **Labels:** text-based entry in a worksheet cell that identifies data on the worksheet.
 - **Constant values:** numerical entry in a worksheet cell
 - **Formulas:** performs mathematical operations on the content of other cells.
 - **Functions:** named programmed formula.



- Entering formulas and functions:

- Begin with the appropriate symbol (usually =).
- Use the addresses of the numbers in the formula, not the numbers themselves:

i.e. =B2+C2 NOT =600+200

- Enter the formula into the cell where the result of the formula should be displayed.
- Formulas can be edited.
- Formulas can be copied to save time.

- Absolute vs. relative cell references:

- Relative cell references:** cell addresses are adjusted as the formula is copied; the default in most spreadsheet programs (B6).
- Absolute cell references:** cell addresses are not adjusted as the formula is copied (\$B\$6).
- Use an absolute cell reference when the formulas should always use the value in a particular cell, regardless of which cell the formula is placed in:
 - Constant value (sales tax rate, etc.) .
 - Percent computation (always divide by total).

COPYING WITH RELATIVE CELL REFERENCES

In most formulas, cell addresses are relative and will be adjusted as the formula is copied.

	A	B	C	D
1				=B2+C2
2	Cones	Sundaes	Total	
3	April	600	200	800
4	May	800	500	1300
5	June	1500	600	2100
6	Total			

Formula for cell D2

Formula for cell D4 became
=B4+C4

Results when the formula in cell D2 is copied to cells D3 and D4.

COPYING WITH ABSOLUTE CELL REFERENCES

A dollar (\$) sign marks a cell reference as absolute; it will be copied exactly as it appears in the source cell.

	A	B	C	D
1				=\\$B\\$2+\\$C\\$2
2	Cones	Sundaes	Total	
3	April	600	200	800
4	May	800	500	1300
5	June	1500	600	2100
6	Total			

Formula for cell D2

Results when the formula in cell D2 is copied to cells D3 and D4

Formula for cell D4 became =\\$B\\$2+\\$C\\$2.

IMPROPER USE

	A	B	C	D	E
1					=D2/\\$D\\$5
2	Cones	Sundaes	Total	Percent	
3	April	600	200	600	19.05%
4	May	800	500	1300	30.95%
5	June	1500	600	2100	50.00%
6	Total			4200	100.00%

Formula for cell E2

Results when the formula in cell E2 is copied to cells E3 and E4.

Formula for cell E4

became =D4/\\$D\\$5

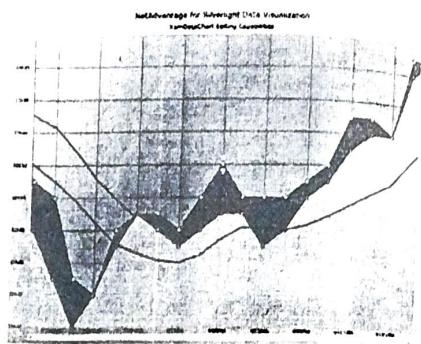
Date of lecture
/ / 20

Note:

Relative vs. absolute cell referencing

➤ Charts and What-If Analysis:

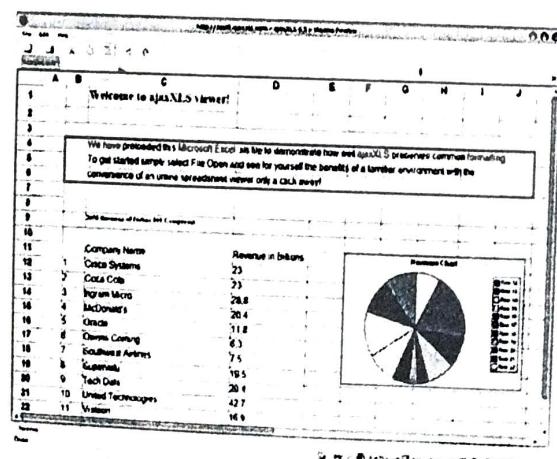
- Most spreadsheet programs include some type of charting or graphing capability:
 - Can create graph from the data in the spreadsheet (don't have to reenter it).
 - Graphs change accordingly if the data in the spreadsheet changes.
- **What-if analysis (sensitivity analysis):** allows you to change certain numbers on a spreadsheet and immediately see the results of that change.
 - Tool frequently used to help make business decisions.



Charts

➤ Spreadsheets and the Web:

- Most spreadsheet programs have built-in Web capabilities.
- Many spreadsheet programs have an option on the File menu to save the current worksheet as a Web page.
- Hyperlinks can be inserted into worksheet cells.
- Ranges of cells can be selected and copied to a Web publishing or word processing program to insert spreadsheet data into a Web page as a table.

Spreadsheets
and the Web

Database Concepts

- **Database management system:** software used retrieve large amounts of data rapidly, such as:
 - A customer service representative who needs to find a customer's order status while they are on the telephone.
 - A university's registrar who needs a student's GPA or want to determine if the student has outstanding fees before processing his registration.
 - A clerk in a video store who needs to determine if a movie is available and, if not, when it is due to be returned.
- Most common type of database used on PCs today is a relational database.



Date of lecture
/ / 20

➤ What Is a Database?

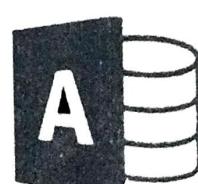
- **Database:** a collection of related data that is stored in a manner enabling information to be retrieved as needed.
- **Database management system (DBMS) (or database software):** application software that allows the creation and manipulation of an electronic database.
- Most PC-based databases are organized into **fields (columns)**, **records (rows)**, and **files (tables)**.
- Common relational database management systems (RDBMS) include:
 - Microsoft Access.
 - Corel Paradox.
 - Lotus Approach.



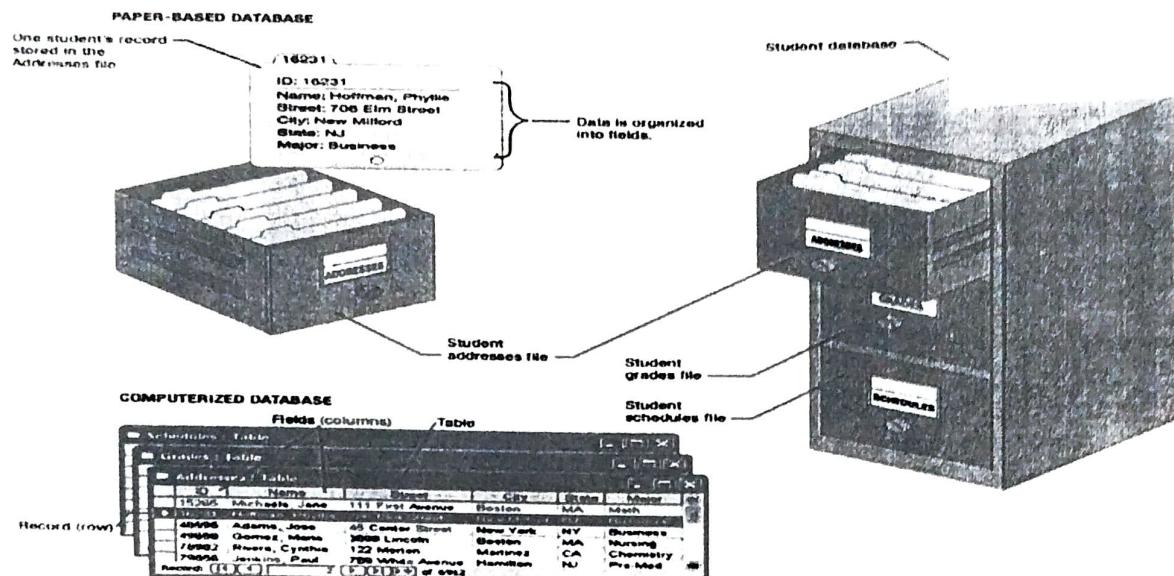
Lotus Approach
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Corel Paradox
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Microsoft Access
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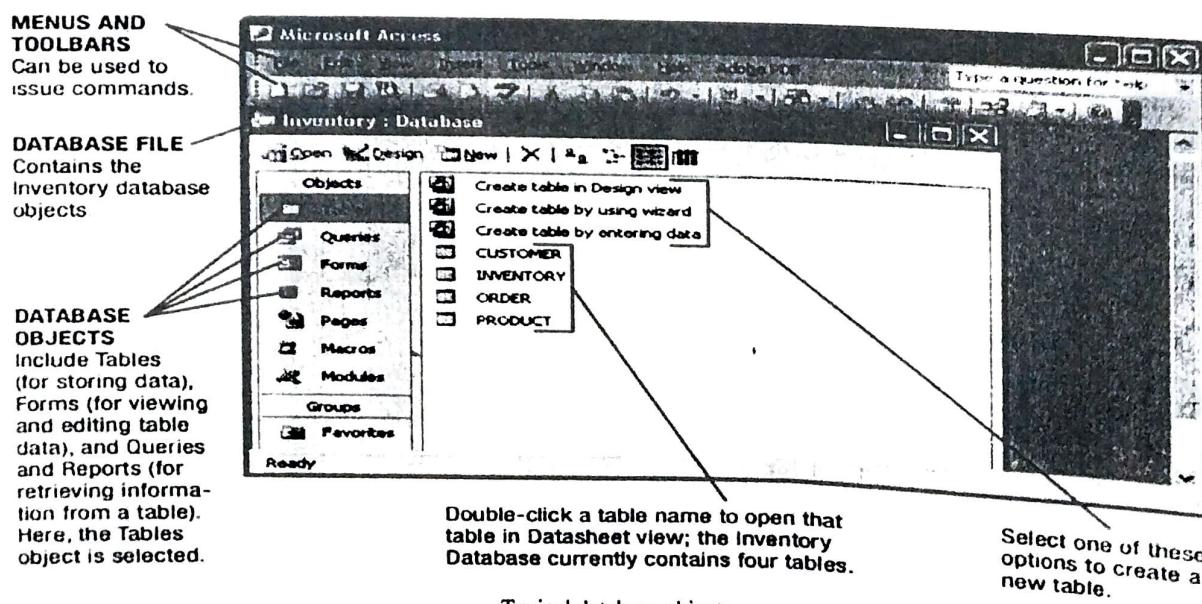


Date of lecture

Note:

➤ Creating a Database:

- Databases can contain a variety of objects (such as tables, queries, forms, reports).
- Objects are given names.



- The table structure is specified first:
 - Includes a list of fields and their properties, including:
 - Field name (unique identifying name).
 - Data type (text, number, date, object).
 - Field size (maximum number of characters).
 - Default value (initial content of the field).
 - The table is named and saved.
 - The table structure can be modified using the Design view.
- After the table structure has been created, data is entered into the table:
 - **Datasheet view:** lists all data and looks similar to a spreadsheet.
 - **Form:** created by the user and typically displays just one record at a time.
 - In either case, data is entered into the database table.
- Either Datasheet view or a form can be used to modify data or delete records.

ENTERING DATA
 Data entry can take place in either the table's Datasheet view, which displays an entire page of records at one time (below), or by using a form, which displays one record at a time (right).

TABLE STRUCTURE
 In Design view, the user gives each field a name and assigns a data type, then field size and other properties can be specified.

Product Name is a text field.

Properties of the Product Name text field.

Forms usually display one record at a time. Records are added by filling out the form.

In Datasheet view, fields appear as columns, and records appear as rows.

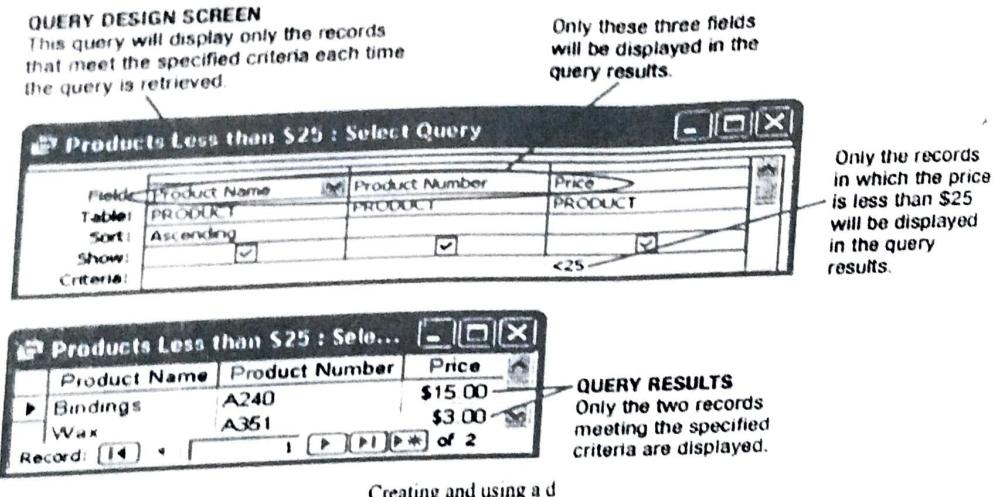
Record buttons can be used to quickly move up or down the table, as well as to the end of the table to add a new record.

➤ Queries and Reports:

- **Queries:** questions, or, in database terms, requests for specific information from the database.
 - Contain criteria to specify the records and fields to be included in the query results.
 - Are named and saved so they can be run again at a later time; the results always include the current database data.
- **Reports:** created when a more formal output is desired .

Date of lecture

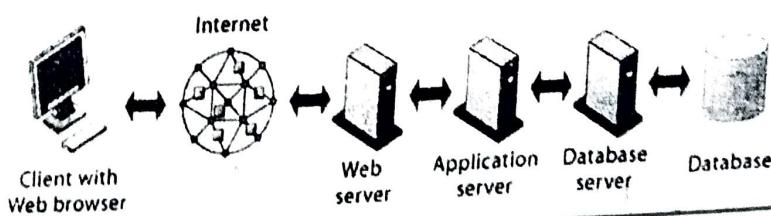
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Creating and using a query

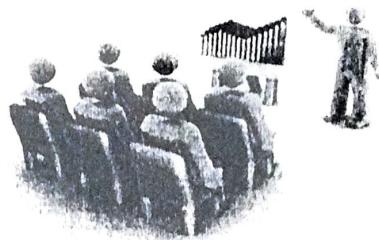
➤ Databases and the Web:

- Many Web sites use one or more databases to:
 - Keep track of inventory.
 - Allow searching for people, documents, products, or other information.
 - Place real-time orders.
- Anytime you type keywords in a search site or hunt for a product on a retail store's Web site using its search feature, you are using a Web database.



Presentation Graphics Concepts

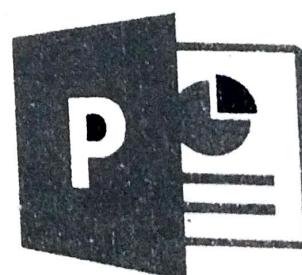
- If you try to explain to others what you look like, it may take several minutes. Show them a color photograph, and you can convey the same information within seconds.
- The saying “a picture is worth a thousand words” is the cornerstone of presentation graphics.



Date of lecture
/ / 20

➤ What Is a Presentation Graphic?

- Presentation graphic:** an image designed to visually enhance a presentation.
- Can be used in electronic slide shows, as well as in printed handouts, overhead transparencies, word processing documents, and Web pages.
- To create presentation graphics, **presentation graphics software** is used. Most common presentation graphics programs are:
 - Microsoft PowerPoint.
 - Corel Presentations.
 - Lotus Freelance Graphics.



Microsoft PowerPoint logo



Lotus Freelance Graphics logo



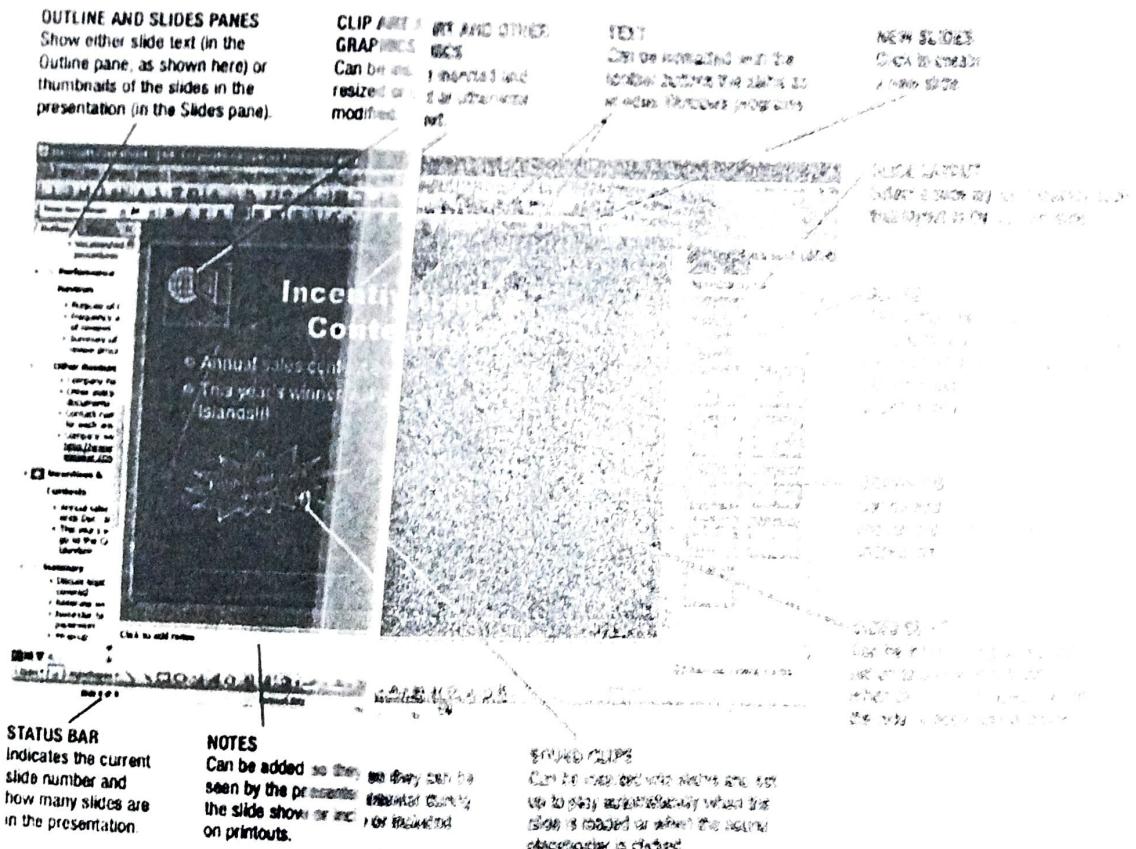
Corel Presentations logo

➤ Creating a Presentation

- Many presentation graphics programs include pre-formatted slide layouts containing placeholder for the various elements in the slide (text, images, charts).
- Slides are created one at a time; new slides can be inserted as needed.
- Multimedia objects and animated effects can be used.
- Transitions special effects used between slides can be applied to specific slides, or random transitions can be selected for the entire slide show.

Date of lecture
/ / 20

Note



Some features in a typical presentation graphics program

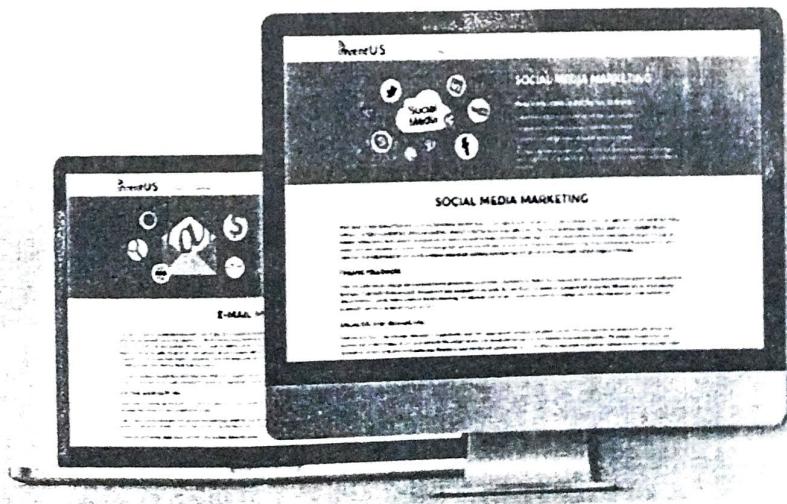
➤ Finishing a Presentation:

- Preview the slides and rearrange them if needed:
 - Most programs have a way to view thumbnails of all slide to more easily rearrange them.
- Run the slide show and edit as needed:
 - Can be set up to run automatically or on mouse click.
- Can usually print the slides to create overhead transparencies or an audience handout.

Date of lecture
/ / 20

➤ Presentation Graphics and the Web:

- Presentation graphics programs can be used to generate Web pages or Web page content.
- Slides can include hyperlinks.
- When a slide show is saved as a series of Web pages and displayed using a Web browser, generally forward and backward navigational buttons are displayed on the slides to allow the user to control the presentation.



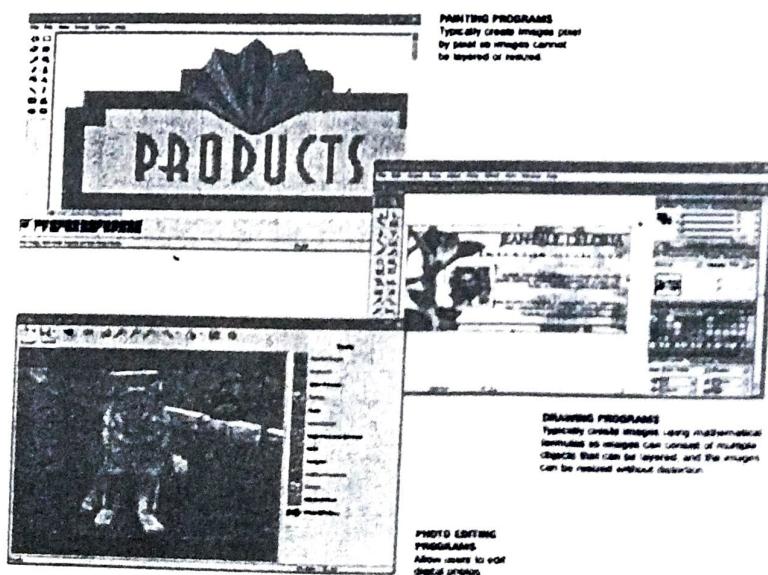
Note:

Graphics and Multimedia Concepts

- Graphics are graphical images, such as digital photographs, clip art, scanned drawings, and original images created using a software program.
- Multimedia typically refers to sound or video.
- There is a variety of software programs designed to help individuals.
 - Create or modify graphics.
 - Edit digital audio or video.
 - Play multimedia files.
 - Burn CDs and DVDs.
- **Graphics software:** used to create or modify images:
 - **Painting programs:** allow you to create bit-mapped images (Microsoft Paint, Corel's Paint Shop Pro).
 - **Drawing programs:** typically create images using mathematical formulas (Adobe® Illustrator®, Macromedia Freehand, CorelDRAW).
 - **Image editing or photo editing programs:** designed for touching up or modifying images.

Date of lecture
/ / 20

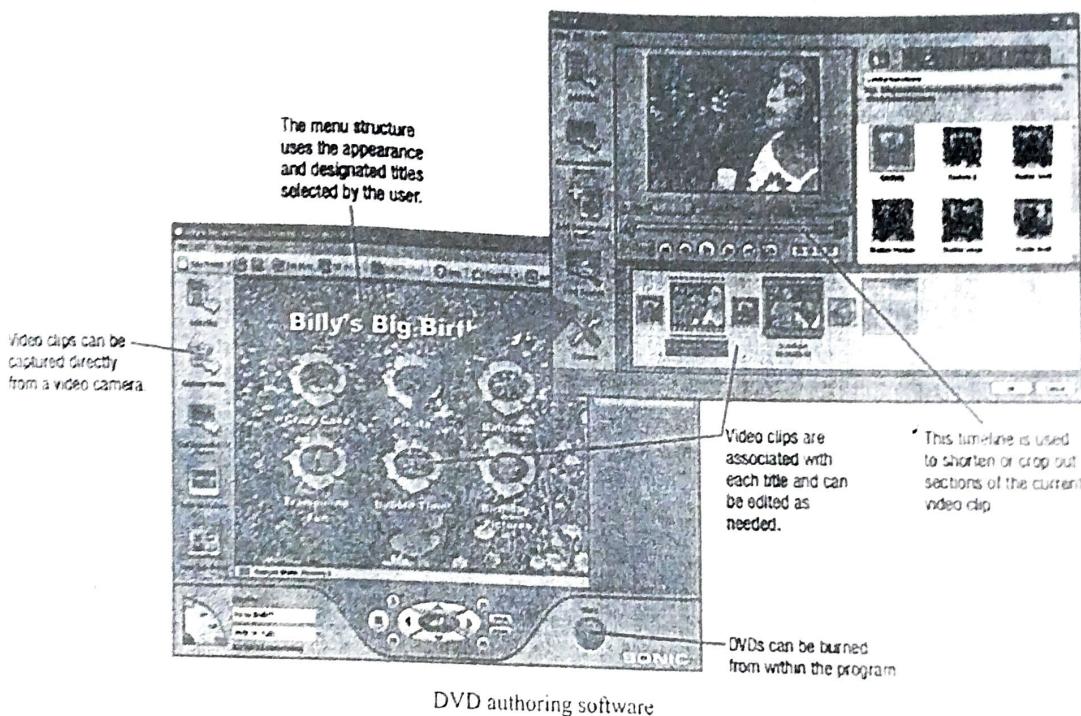
Note:



Graphics software

- **Audio editing software:** used to create and edit audio files.
- **Video editing software:** used to modify existing videos, such as:
 - Deleting scenes.
 - Rearranging scenes.
- **DVD authoring software:** used to create DVD content, including
 - Importing videos.
 - Creating menus.
 - Burning onto a DVD.

Date of lecture
/ / 20



DVD authoring software

- **CD and DVD burning software:** used to record data on recordable or rewritable CDs and DVDs.
- **Media players:** used to play media available via your PC—such as music CDs or downloaded music or video—as well as online audio and video clips.
- Graphics and multimedia software is often used by individuals and businesses alike to create Web sites or content to be shared via the Web.

Note

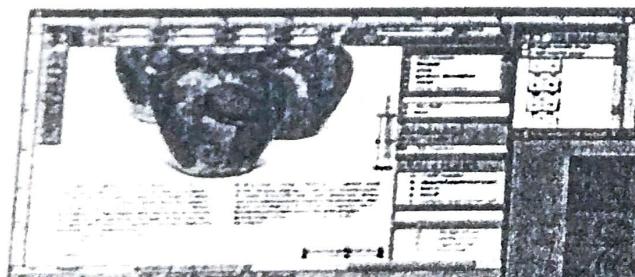
Other Types of Application Software

- Desktop and personal publishing software.
- Educational software.
- Entertainment software.
- Reference software.
- Accounting and personal finance software.
- CAD and other types of design software.
- Project management and collaboration software.
- Note taking and personal productivity software.

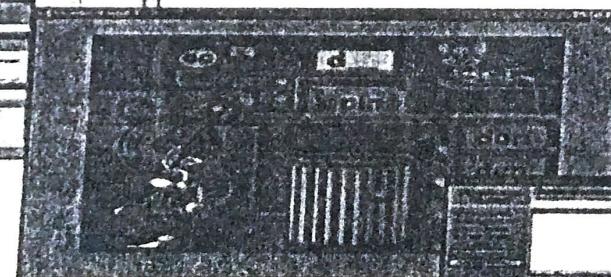
Date of lecture

/ / 20

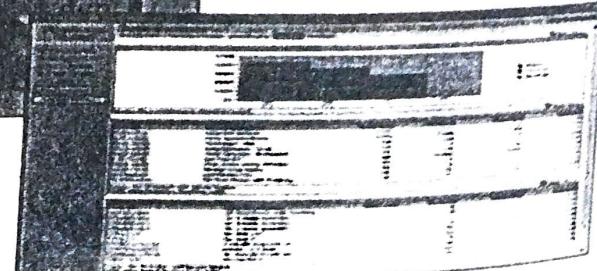
Note:

**DESKTOP PUBLISHING PROGRAMS**

Desktop publishing programs allow users to create publication-quality documents on their PCs.

**EDUTAINMENT PROGRAMS**

Designed to teach skills in a fun, entertaining manner, such as the children's program shown here.

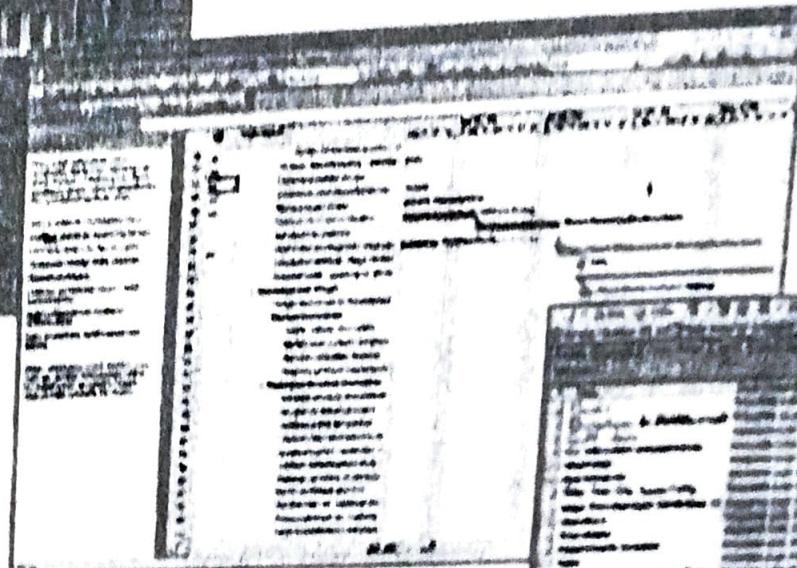
**ACCOUNTING PROGRAMS**

Automate accounting tasks, such as accounts receivable, accounts payable, and more, to save time and increase accuracy.



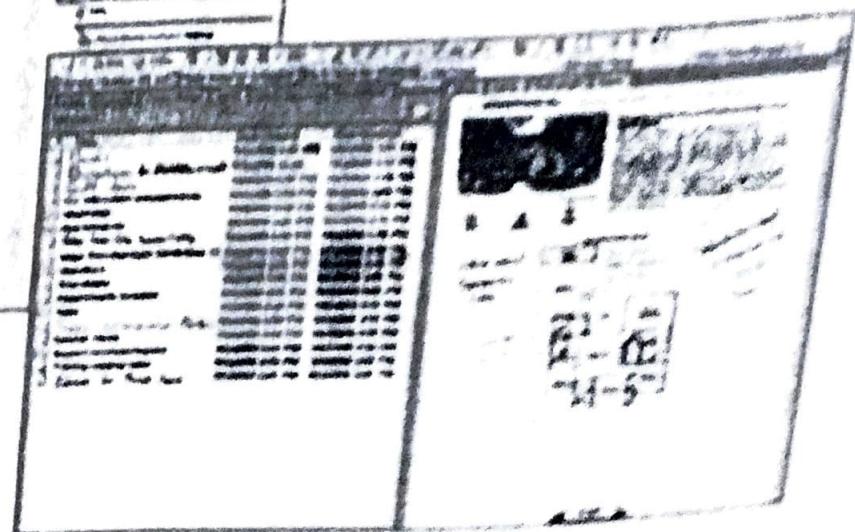
DESIGN PROGRAMS

Help users design new products, homes, landscapes, and more. A popular home design program is shown here.



PROJECT MANAGEMENT PROGRAMS

Help users plan, track, and manage the various parts of a project; used in a wide range of industries.



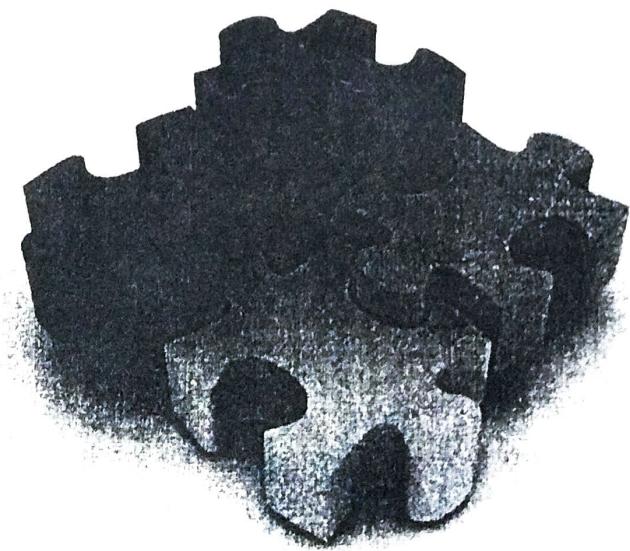
PERSONAL PRODUCTIVITY PROGRAMS

Allow individuals to access schedules, contacts, notes, and more in one location.

Other types of application software

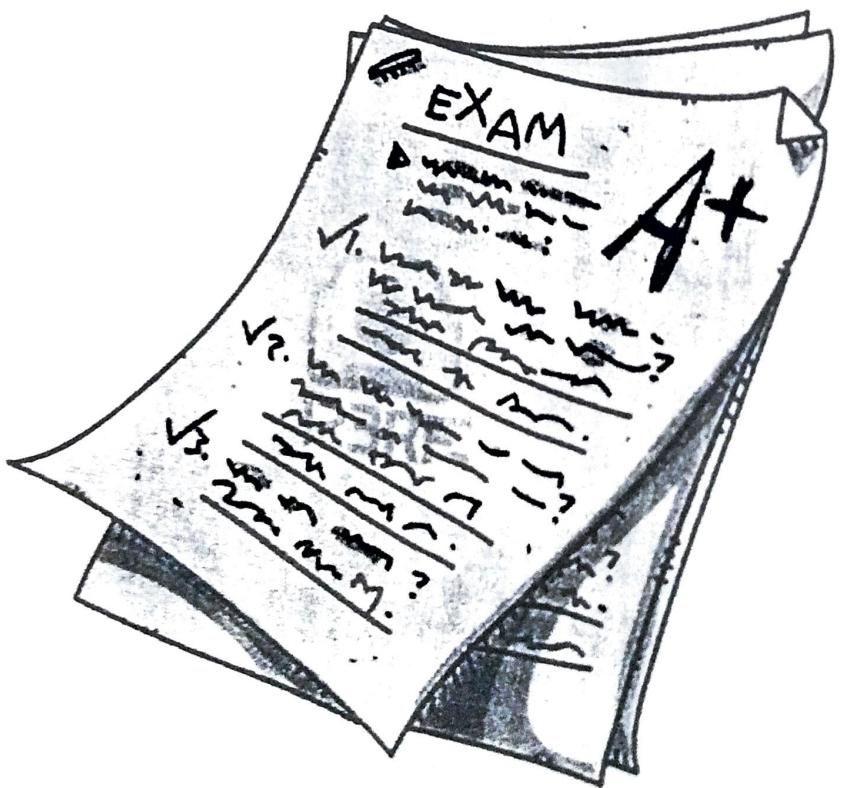
Summary

- The Basics of Application Software.
- Word Processing Concepts.
- Spreadsheet Concepts.
- Database Concepts.
- Presentation Graphics Concepts.
- Graphics and Multimedia Concepts.
- Other Types of Application Software.



Date
/ 20

Exercises



1- Match each key term on the left with the definition on the right that best describes it.

Key term matching	Description
a. cell	1- A collection of related data that is stored in a manner enabling information to be retrieved as needed.
b. database	2- A collection of related fields in a database. Also called a row.
c. field	3- A collection of worksheets saved in a single spreadsheet file.
d. formula	4- An agreement, either included in a software package or displayed on the screen during installation, that specifies the conditions under which a buyer of the program can use it.
e. label	5- An entry in a worksheet cell that performs computations on worksheet data and displays the results.
f. public domain software	6- A single category of data to be stored in a database, such as a person's name or telephone number. Also called a column.
g. record	7- A text-based entry in a worksheet cell that identifies data on the worksheet.
h. shareware	8- Copyrighted software that is distributed on the honor system; consumers should either pay for it or uninstall it after the trial period.
i. software license	9- Software that is not copyrighted and may be used without restriction.
j. workbook	10- The location at the intersection of a row and column on a worksheet into which data can be typed.

2- Circle T if the statement is true and F if the statement is false.

- a). T F Microsoft Office is one example of a software suite.
- b). T F Changing the font size in a document is an example of a formatting operation.
- c). T F In a word processing document, the Enter key is always pressed at the end of each screen line to move down to the next line.
- d). T F The formula =A2+B2 located in cell C2 would multiply the two cells to the left of cell C2.
- e). T F Software can be installed on both personal computers and servers.

3- Write the best answer in the space provided.

- a). With a(n) program, the source code for the program is made available to the public and so can be modified by others.
- b). The blinking vertical line displayed on the screen that indicates the current location in a document, such as where the next change will be made to the document in a word processing program, is called the
- c). A named formula (such as @SUM) in a spreadsheet program is called a(n)
- d). In a relational database, the database object that contains the actual data is the