Strand: Application Packages
Sub strand: Application Software
Content Learning Outcome: At the end of this unit students should be able to:
Differentiate between system software and application software.

Categories of Operating System

There are three basic categories:
- ✓ Embedded operating system
- ✓ Network operating system [NOS]
- ✓ Stand-alone operating system [Desktop operating system]

Embedded Operating System

- ✓ Are used for handheld devices and small devices like PDAs and mobile phones. The entire operating system is stored within or embedded in the devices.
- ✓ Examples: Windows CE, Pocket PC 2002, Palm OS,Symbian, Android, Apple iphone and Blackberry.

Network operating system (NOS)

- ✓ Are used to control and coordinates computers that are networked or linked together.
- ✓ Popular network operating systems include Linux, Windows 2000 Server, WINDOWS NT SERVER and UNIX.

Stand-alone operating systems

- ✓ It is a complete operating system that works on desktop or notebook computer.
- ✓ Some stand-alone operating systems, called client operating systems, also work in conjunction with a network operating system.
- ✓ EXAMPLES are: *WINDOWS 7, WINDOWS VISTA, WINDOWS XP.*

Utilities

- ✓ A *utility program* is a type of system software that performs a specific task, usually related to managing a computer, its devices, or its program. In simple terms it performs the house keeping functions of the computer system.

Types of Utilities

Utility Program	Function
Troubleshooting or diagnostic program	A program that recognizes and correct problems, ideally before they become serious.
Antivirus program	Is a program that guard your computer system against viruses or other damaging programs that can invade your computer system.
Uninstall program	A program that allow you to safely and completely remove unneeded programs and related files from your hard disk.
Backup program	A program that make copies of files to be used in case the originals are lost or damage.

File compression programs	A program that reduces the size of files so they require less storage space and can be sent more efficiently over the internet.
Disk defragmenter	A utility program that locates and eliminates unnecessary fragments and rearranges files and unused disk space to optimize operations.

Activity

1) Why is a graphical user interface described as user-friendly?

2) What is a network operating system?

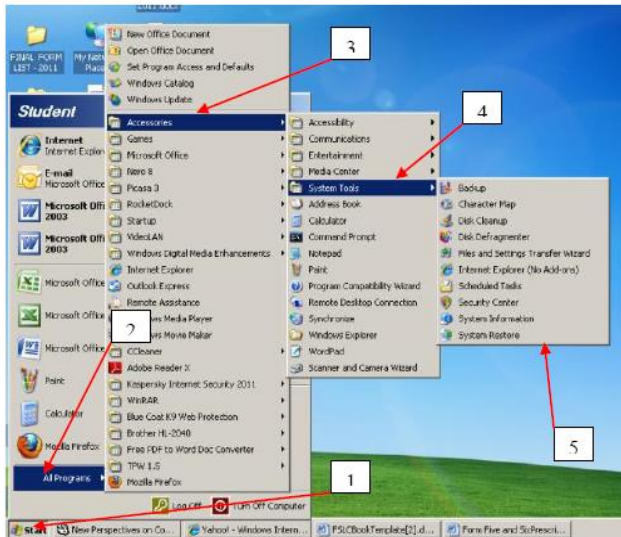3) Describe at least three utility programs?

Windows Utilities

Figure 2.1.2b *Accessing Windows XP utilities*

Utility Suites

- ✓ It combines several utility programs into one package.
- ✓ Buying the package is less expensive than buying the programs separately.
- ✓ Some of the best known utility suites: BitDefender ,Norton Utilities,ZoneAlarm
- ✓ These utility provides variety of utility programs including programs that will protect your system from dangerous programs called viruses.

Activity

1. Describe how to keep the anti-virus software up-to-date.

2. Name any four anti-virus software?

Device drivers

- ✓ *Device driver* is a program that provides the interface between the application software, operating system and hardware device.
- ✓ Each time the computer started, the operating system loads all of the device drivers into the computer's memory.
- ✓ A new device driver must be installed whenever a new device is added or installed into the computer.
- ✓ The latest operating systems come with most device drivers preinstalled so all you have to do is plug in the device and use it. These devices are now called plug n play devices for example mouse, keyboard, etc.

Language translators

- ✓ *Language translators* are programs that convert programs written in high level programming language into machine language. Since the CPU can process only 0's and 1's everything task that we perform on the computer must be converted into machine language (0's and 1's).
- ✓ Convert the programming instructions written by programmers into a language that computers understand and process.

Activity

1. What is meant by multitasking?

2. An operating system is software that manages the overall operation of a computer system. Explain briefly four basic functions of an operating system.

Application Software

▶ Described as end users software. Application software is used to perform either specific or general task which is not related to the computer system itself.

Two categories of application software are:

✓ General-purpose program
✓ Special purpose program

General-purpose applications

General purpose programs are designed to be used by many people to do the most common kind of tasks such as typing, preparing budgets, presentations and small databases

✓ Also known as basic application
✓ Some of the example:
✓ Web browser
✓ Word processors
✓ Spreadsheet
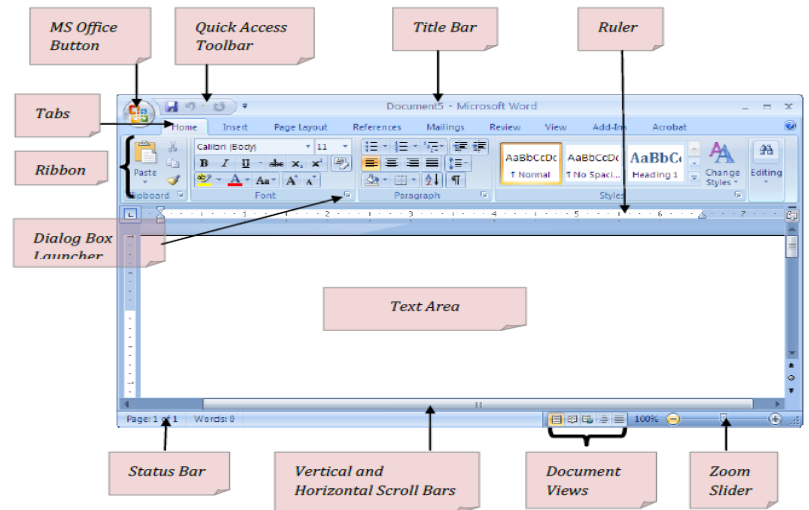✓ Database management system
✓ Presentation graphics

Special purpose program

✓ Are designed to perform specific tasks for example inventory, payroll, accounting, point of sales, virtual reality, artificial intelligence and games.
✓ It is also known as advanced application
✓ Some of the example are:
   ▶ MYOB
   ▶ SOLITAIRE (games)
   ▶ AUTOCAD

Activity
1. What is the difference between application and system software?

Features Of Application Software

Common Features Of Application Software

Feature	Description
Tabs	Presents tools/buttons available for selection from the ribbon.
Shortcut keys	Special-purpose keys for frequently used commands.
Ribbon	Presents graphic objects/buttons for commands
Help	Presents explanations of various commands.
Dialog Box	Used to specify additional command options.
Insertion Point	Shows where data can be entered.

Scroll Bars	Used to display additional information.
Quick Access	Tools that are frequently used can be set here. Eg Save, undo, print and print preview.
Groups	Provide categorized tools options under specific headings.

WYSIWYG

✓ stands for "What You See Is What You Get". This

2.Explain the difference between general-purpose program special purpose program.	means that the image on the screen display looks the same as the final printed document. ✓ The WYSIWYG feature allows the user to preview the documents appearance before it is printed out.

Strand: Application Packages
Sub strand: Application Software
Content Learning Outcome: At the end of this unit students should be able to:
identify and analyze software

Word Processing Software
- ✓ Word processing software is used to create, edit, save and print documents.
- ✓ It creates text-based documents such as reports, letters and memos. Word processing software is used to create, edit, save and print documents
- ✓ Some of the word processor software:
- ✓ Microsoft Word, Corel WordPerfect and Lotus Word Pro.

Word Processing Editing Features

	Feature	Description
Editing Features	Word wrap	Automatically moves the word to the next line once the current line is full. To begin a new paragraph or leave a blank line, you press the Enter key.
	Spelling and Grammar	Spelling can be checked by running a spelling checker program. Incorrectly spelled words are identified and alternative spelling suggested. In a similar manner, grammar checkers can be run that will identify poor wording, excessive long sentences, and incorrect grammar.
	Thesaurus	Enables you to quickly find the right word or an alternative word with similar meaning.
	Find and Replace	You can quickly locate any character, word, or phrase in your document using the search or find commands.
	Merge	Mails merge or form letter features allows you to merge different names and addresses.
	Reference	Tables contents, footnotes, end notes, indexes, page numbers, bulleted lists etc.
	Clipboard	Cut, delete, copy, undo, redo and paste options.

Word Processing Formatting Features

	Feature	Description
Formatting Features	Paragraph	Numbering, bullet points, indentation, alignment, line/character spacing and borders & shading allows better organization of the contents in a document.
	Font	Type, color, size, bold, italics, underline and change case allow enhancing the appearance of the contents of the document.
	Styles	Allow contents to be organized according the heading, sub headings and captions.
	Tables	Text documents often include both text and numbers, this type of information can be displayed as a table in row-and-column format.
	Hypertext Link	Can be created to cross-reference information within the current document and between other files including WWW.
	Illustrations/Graphics	Objects such as lines and shapes can be inserted and modified.
	Internet Publishing	Many word processors are including features that allow you to create and edit documents to be displayed on the web.

Activity
1. Give two examples of Word Processing Software.
2. What is word wrap?

3. Name three formatting Features of Word processing software.

Spreadsheet
- ✓ Spreadsheet is an electronic worksheet used to organize and manipulate numbers and display options for "What-if" analysis. It is used to organize, analyze, and graph numeric data such as budgets and financial reports.
- ✓ Students and teachers record grade and calculate grade point average.
- ✓ Some of the Spreadsheet software are:
  - ► Microsoft Excel, Corel Quattro Pro, Lotus 1-2-3

- ✓ It enables one to manipulate figures and texts in columns and rows and perform calculations using formulas.
- ✓ The columns are identified by letters and rows are identified by numbers.
- ✓ The intersection of row and column creates a cell. For example, the cell A10 is formed by the intersection of column A and row 10. Thus spreadsheet programs organize, manipulate and graph numeric information.

Formatting Cells

Labels are often used to identify information in a worksheet. Usually a label is a word or symbol, such as hash sign (#).

A number in a cell on which calculation is done is called a value.

Labels and values can be displayed or formatted in different ways. For example, a label can be centered in the cell or positioned to the left or right or indented. A value can be displayed to show decimal places, dollars, or percent.

Formulas and functions
- ✓ Formulas are instruction for calculations written by the user which consists of arithmetic operations (+,*,-, /).

For example: to add cells C6, D6, E6 & F6, the user defined formula written in cell G6 would be = C6+D6+E6+F6.
- ✓ Functions are prewritten formulas that perform calculations automatically. For example to perform the same addition, the function to be used in cell G6 would be = SUM(C6:G6).
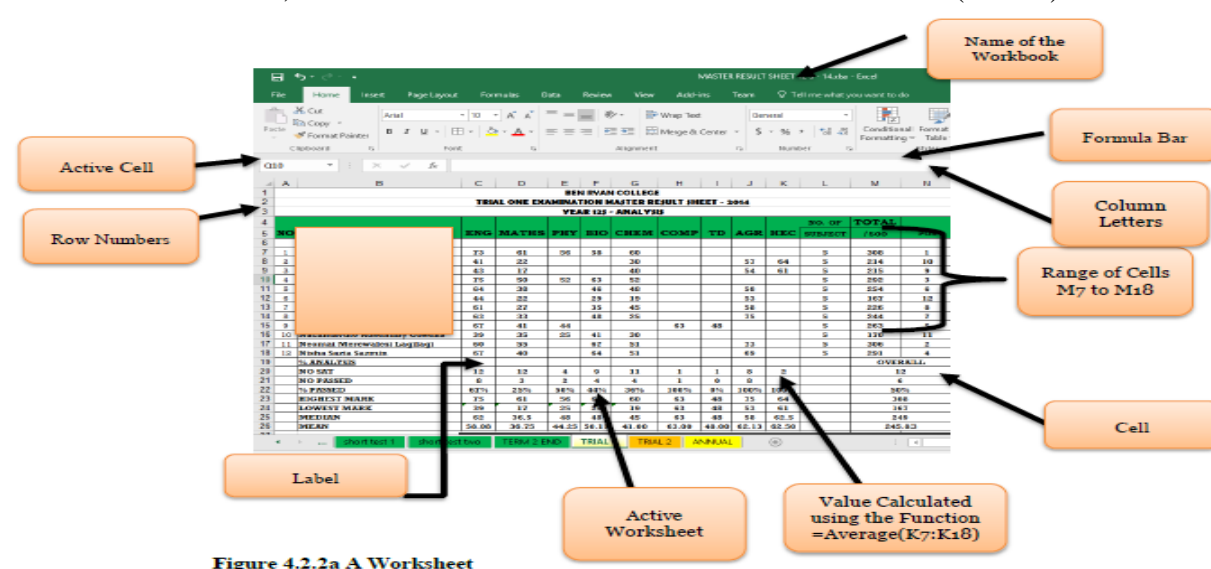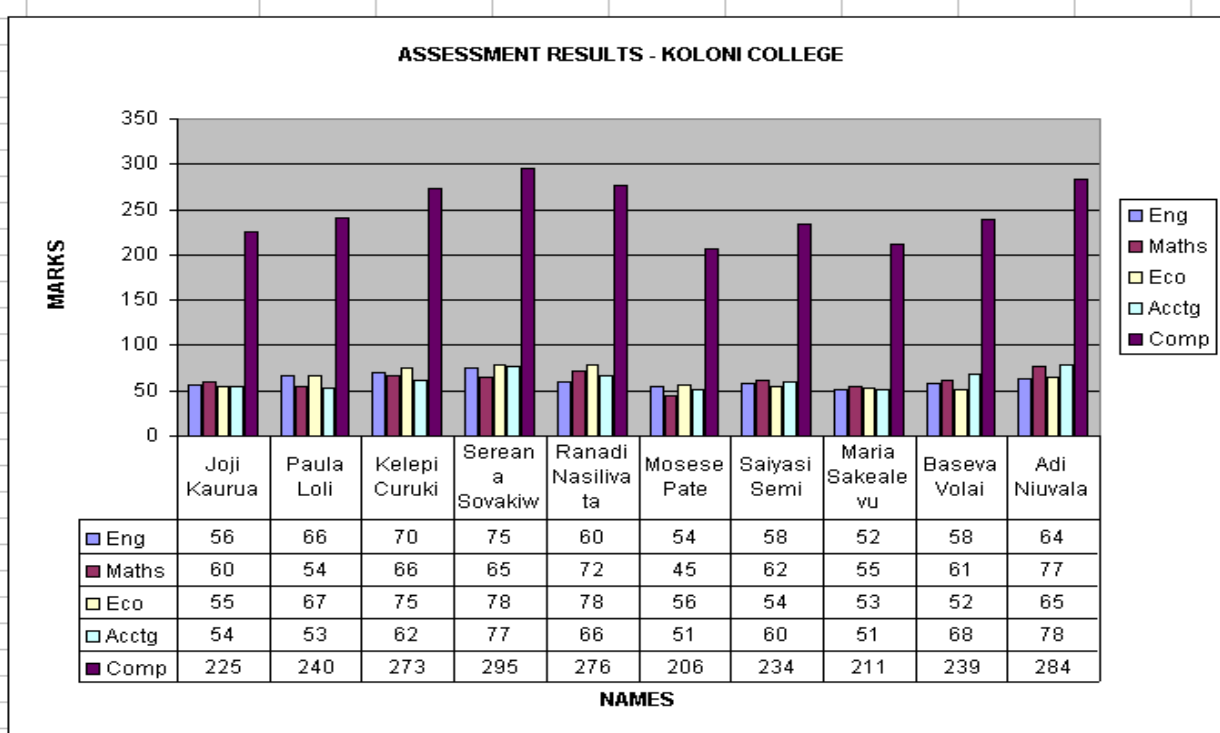

Figure 4.2.2a A Worksheet

Spreadsheet
- ✓ A **range** is a series of continuous cells. For example C2:R8
- ✓ *Analytical graphs or charts are visual representations of data in a worksheet. You can easily create graphs in a spreadsheet program by selecting the cells containing the data to be graphed and then selecting the type of chart to display*
- ✓ **Recalculation -** If you change one or more numbers in your spreadsheet, all related formulas will automatically recalculate and charts will be automatically adjusted.

ASSESSMENT RESULTS - KOLONI COLLEGE

	Joji Kaurua	Paula Loli	Kelepi Curuki	Sereana Sovakiw	Ranadi Nasilivata	Mosese Pate	Saiyasi Semi	Maria Sakealevu	Baseva Volai	Adi Niuvala
☐ Eng	56	66	70	75	60	54	58	52	58	64
■ Maths	60	54	66	65	72	45	62	55	61	77
☐ Eco	55	67	75	78	78	56	54	53	52	65
☐ Acctg	54	53	62	77	66	51	60	51	68	78
■ Comp	225	240	273	295	276	206	234	211	239	284

NAMES

Sample of spreadsheet program

What-if analysis lets you change one or more values in your spreadsheet, all related formulas will recalculate automatically. Thus you can substitute one value for another in a cell and observe the effect on other related cells in the spreadsheet.

Activity
1. What is the difference between **spreadsheet** and **word processor**? Give an example of each.
2. What is the difference between formula and function in spreadsheet program?
3. Give an example of range of cells.

Database

- ✓ A database is a program, which is used for computerized record keeping. It organizes data to be accessed in an organized and timely manner.
- ✓ A **Database management system (DBMS) is software used to set up, or structure a database. It also used to retrieve information from a database.**
- ✓ Data is organized into tables. Each table is made up of rows called records and columns called fields. Examples: Microsoft Access, Corel Paradox, Lotus Approach, dBase IV.
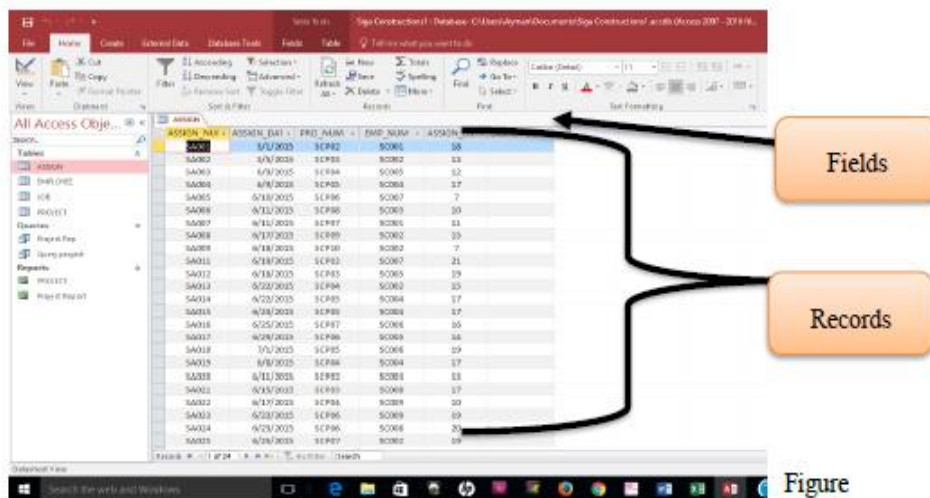
Features

Locate and Display - A basic feature of all database programs is the capability to quickly locate or find records in the database.

The main method of locating specific kind of data for a data from a database is to create a query.

A **query** is english like sentences used to display specific records based on a selection or criteria.

Sorting - Normally, records are displayed in the order they are entered or by key field such as social security number

4.2.3a Sample Database [Microsoft Access 2016].

Presentation Graphics

A presentation graphics program can display numeric data in a visual format for analysis and presentation purposes.

These programs are often used by marketing or sales people as well as many others.

Most commonly used presentation graphics programs are Microsoft PowerPoint, Corel Presentation and Lotus Freelance Graphics

Features

Design layout and schemes - includes preformatted text for many different types of presentations from selling a product to reporting on progress

Templates – predetermined documents that include selected combination of text layouts with features such as title placement and size.

Animations include special visual and sound effects. These effects include blinking text and transitions between topics. You can insert audio and video clips that play automatically or when selected.