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# 3. Operating Systems

It is a control program that provides an interface between the computer hardware and the user. Part of this interface includes tools and services for the user.

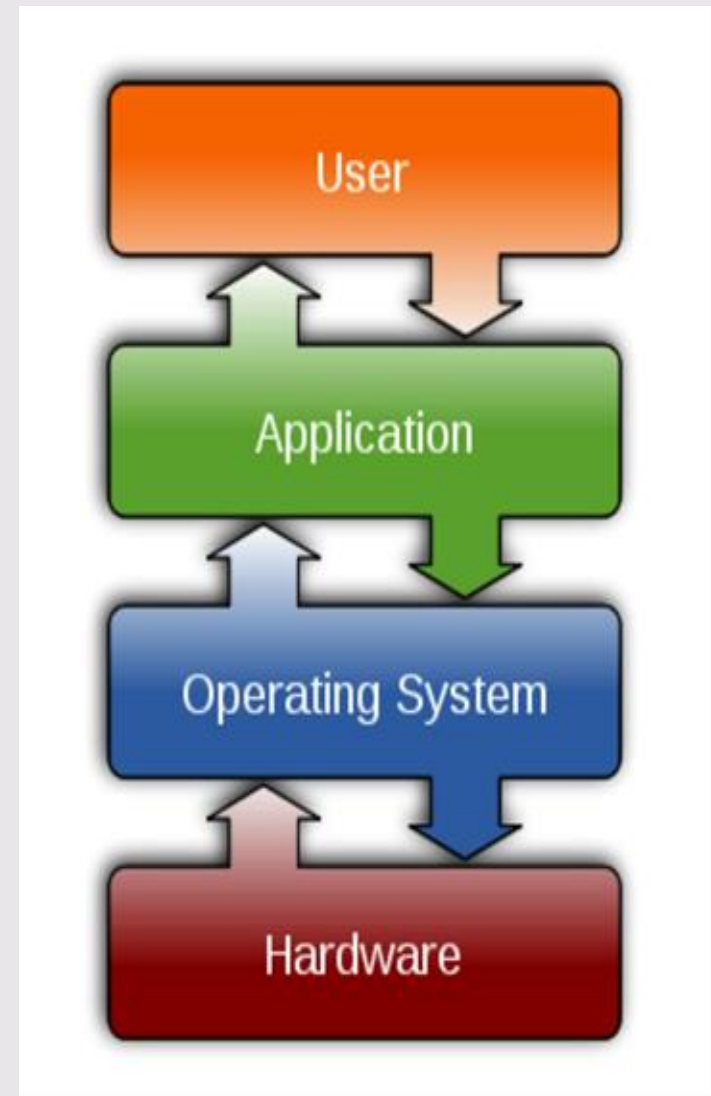


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# 3.1 Operating System

- The operating system is the most important program that runs on a computer.
- Operating system is an interface between computer and user.
- It is responsible for the management and coordination of activities and the sharing of the resources of the computer.





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## 3.2 Types of Operating System

- **Real-Time**

- A real-time operating system is a multitasking operating system that aims at executing real-time applications.
- Responds to input instantly.

### **Multi-user vs. Single-user**

- A multi-user operating system allows multiple users to access a computer system concurrently.
- Multi-tasking vs. Single-tasking
- When a single program is allowed to run at a time, the system is grouped under a single-tasking system



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## 3.2 Cont.

- **Distributed**

- A distributed operating system manages a group of independent computers and makes them appear to be a single computer.
- The development of networked computers that could be linked and communicate with each other, gave rise to distributed computing.

- **Embedded**

- Embedded operating systems are designed to be used in embedded computer systems.
- They are designed to operate on small machines like PDAs with less autonomy.
- They are able to operate with a limited number of resources



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## 3.3 Microsoft Word

- **Microsoft Word** is a word processor developed by Microsoft. It was first released in 1983.
- The extension name of MS- word is **.doc or .docx**
- Microsoft Word is a component or product of the Microsoft Office suite.
- It allows the user to insert pictures, tables, charts, drawings & features that will make the text richer & more interactive.



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## 3.4 Features of MS-Word

- **WYSIWYG (what-you-see-is-what-you-get) display:** It ensures that everything you see on screen will appear the same way when printed or moved to another format or program.
- **Spell check:** Word comes with an built-in dictionary for spell checking; misspelled words are marked with a red squiggly underline. Sometimes, Word auto-corrects an obviously misspelled word or phrase.
- **Text-level features** such as bold, underline, italic and strike-through.
- **Page-level features** such as indentation, paragraphing and justification.
- Some features like cut, copy, paste, replace and find data.
- Page headers, footers, numbers and watermarking.
- Insertion of pictures tables and shapes.





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## 3.4.1 Features of EDIT MENU (ALT E)

- Undo - Will take the previous command (ctrl +Z)
- Redo - Will take the opposite action of undo ( Ctrl + Y)
- Cut - Can cut a selected text ( Ctrl + X)
- Copy - Can copy a selected text ( Ctrl + C)
- Paste - Can paste the selected text ( Ctrl + V)
- Del - Removes the selected text
- Find - Used to find the part of text word \ character in the file (Ctrl + F)
- Find Next – (F3) Finding \ finding next : Used to repeat the finding process.
- Replace - Used to replace any part of Text / word / Character with another word/ character.



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# 3.5 MS –EXCEL

**Spreadsheet** is software presents data in the form of rows and columns.

**“Microsoft Excel** is a **spreadsheet** program included in the Microsoft Office suite of applications.||

It includes all features like calculation, graphs, and functions, hold graphic objects like pictures, images & analyzing data.

The extension name of MS- Excel is **.xls or .xlsx**





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## 3.6 Features of MS-Excel

- **Window based application:** Excel like all other applications has Toolbars, Shortcut Menus, Auto correct, online help and Wizards.
- **Workbooks:** Workbooks are the files in which worksheets related to a project are held.
- **OLE support:** Object linking and Embedding is a feature through which Excel can contain any object like a document, a picture etc.
- **Maintaining high volume of data:** Excel can contain large volume of data. A worksheet can contain 65536 rows and 256 columns. A single cell can contain a maximum of 255 characters. One workbook can contain a maximum of 256 worksheets.



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## 3.6 Cont.

- **Availability of functions:** Several Mathematical, financial & statistical functions are available in an Excel package.
- **Availability of Charts & Graphs:** MS-Excel allows users to view data entered as tables in a graphical form as charts, which helps the user to easily understand, analyze data & compare data.
- **Data Analysis Tools:** MS-Excel provides a set of data analysis tools called Analysis Tool pack.
- **Sorting and filtering capability:** Excel has the capability of sorting any data in Ascending or Descending order.