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OPERATING SYSTEMS

• OPERATING SYSTEM

Computer system cannot operate without an operating system. Some of the most common operating systems are Windows operating systems (by Microsoft), Macintosh operating systems (by Apple) and UNIX family of operating systems.

FIG: FUNCTIONS OF OPERATING SOFTWARE

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1. **Process management**-A program that is in an execution state is called a process. The operating system helps in the allocation of resources to each process.

2. **Memory management**- The OS keeps track of every memory location, that is either assigned to some process or is free. It also checks how much memory should be assigned to each process

3. **Input/Output Management**- Operating system provides a generic, consistent, convenient and reliable way to access I/O devices. OS responds to the user keystrokes, mouse clicks and other input formats.

4. **File & Disk Management**- The operating system is responsible for the organisation of the file system. It guarantees that the read and write operations performed on the secondary storage device are secure and reliable.

5. **User Interface**- A User Interface (UI) is the part of an operating system, program or device that the user uses to input and receive data. Graphical User Interface (GUI) is an easy-to-use interface. It uses graphics, along with a keyboard and a mouse, to provide an easy-to-use interface to a program.

• TYPES OF OPERATING SYSTEM

1. **Microsoft Windows**- It is Graphical Users Interface based operating system, i.e., interaction with the computer is done by clicking with mouse on the icons. GUI also provides menus, buttons and other graphical objects to the user to perform different tasks. GUI is very easy to interact with

the computer. Thus, Windows eliminate the need to memorize commands for the command line (MS-DOS)

2. **Linux**- Linux is an open-source operating system i.e., program code is freely available and source code with developers or users for modification. Linux is customizable in a way that Windows is not.

3. **UNIX**- It is a stable, multi-user, multi-tasking system for servers, desktops, and laptops. UNIX has better built-in security and permissions features than Windows.

4. **Smartphone Based Operating System-**

    A. iOS- Apple iOS is a multi-touch, multi-tasking operating system that runs on Apple iPhone, iPad, and iPod. It gives the response on the user's touch.
    B. Android- Android is an open-source mobile operating system owned by Google.
    C. Windows phone- The Windows phone home screen resembles a Window's Desktop start menu. Windows phone is recognizable from its tile-based interface.

• Linux operating system has three main components.
    (i)   Kernel - Core part of Linux. It is responsible for major activities of operating system.
    (ii)   System library - It has special functions using which application programs access Kernel's features.

(iii)   System utility - It is responsible to do specialized, individual level tasks

ANSWERS

Answers to Check yourself:

1. C
2. C
3. D
4. D