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Quiz 1

1. Explain the concepts of the Operating Systems.

* The operating system is a program that handles different task and processes in the computer such as file management, memory management, handling input and output etc. The operating system itself is a vital component of a computer since many programs in the computer cannot run without an operating system

1. What are the types of Operating Systems?  Give an example for each type?

* Real-Time Operating System - From the name itself, this operating system is used to handle data that are being accessed in real time. As soon as the data becomes available, the execution of the processes will start as well with no delay. There are two types of real-time operating system.

Example: Airline Traffic Control System for Airports

* Embedded Operating System - This type of operating system is used to power devices that is not a computer and to allow said devices to function and work properly.

Example: The Linux Operating System

* Smart Card Operating System – This type of operating system is used for security purposes. It protects the identity of the user and gives security services.

Example: Embedded Chip cards, ATM cards, SIM cards

* Multi-user Operating System – From the name itself, this is an operating system that permits multiple users to access while performing on a single machine.

Example: Windows, Mac OS, Linux

* Distributed Operating System - In this type of operating system, various systems existing here all have their own CPU, memory, and other types of resources. The systems are all interconnected over a network to allow communication.

Example: AIX Operating System, Solaris Operating System

* Multiprocessor Operating System – In this operating system, multiple CPUs are linked to distribute job properly and this allows for faster execution within the computer. These CPUs are used to run multiple programs and jobs as well.

Example: UNIX

* Single-User Operating System – As the name implies, this operating system allows only a single user to work on one task at a time. This type of OS is typically used on devices like wireless phones and two-way messaging devices.

Example: Palm OS, MS-DOS

1. What is the role of the Operating Systems in computer system operation?

* The operating system has the most important part in the operation of the computer and its system. The role of the operating system is to handle and oversee all of the software and hardware features of the computer. Since a computer requires to have multiple processes and tasks running, the operating system is the one who governs all of these to make sure that the computer is running smoothly.

1. Identify the functions of Operating Systems in Computer System Structure.

There are several functions present in an Operating System. These are:

* Memory Management – the operating system handles the memory of the computer. The operating system keeps track of the memory of the computer and allocates memory where the memory is requested to be used.
* Processor Management – The operating system oversees which processes in the computer will be prioritized and have access to the processor as well as keeping track of the running processes in the computer. It also allows to run processes and remove them if they are not running.
* File Management – The operating system keeps records of data and information and where it is stored through the use of user access and other relevant files.
* Device Management – The operating system maintains device connection using the drivers of the computer. It keeps record of the devices and surmises which existing processes of the system will be of use to the device
* Security – In the modern computer, the operating system uses a firewall. A firewall is a type of security program that has access to all computer activities and blocks those that it deems to be a threat.
* System Performance – The operating system also allows the computer to display performance statistics for some resources and to show performance levels.