An Operating System is a software that acts as an interface between computer tackle factors and the stoner. Every computer system must have at least one operating system to run other programs. operations like Cybersurfers, MS Office, Notepad Games,etc., need some terrain to run and perform its tasks (www.scaler.com, 2024).   
The OS helps you to communicate with the computer without knowing how to speak the computer's language (guru99, 2024). It isn't possible for the stoner to use any computer or mobile device without having an operating system.   
preface to Operating System   
  
**Why use an operating system?**

An operating system brings important benefits to computer software and software development. Without an operating system, every operation would need to include its own UI, as well as the comprehensive law demanded to handle each low- position functionality of the underpinning computer, similar as fragment storehouse, network interfaces and so on. Considering the vast array of underpinning tackle available, this would extensively bloat the size of every operation and make software development impracticable.   
rather, numerous common tasks, similar as transferring a network packet or displaying textbook on a standard affair device, similar as a display, can be unloaded to system software that serves as an conciliator between the operations and the tackle.

**Types of operating system**   
  
Following are the popular types of Operating System   
• Batch Operating System   
• Multitasking/ Time participating OS   
• Multiprocessing OS   
• Real Time OS   
• Distributed OS   
• Network OS   
• Mobile OS

**Batch Operating System**   
  
Some computer processes are veritably lengthy and time- consuming. To speed the same process, a job with a analogous type of requirements are batched together and run as a group.   
The stoner of a batch operating system noway directly interacts with the computer. In this form of operating system, each stoner prepares his or her job on an offline device such as a punch card before submitting it to the computer driver.

**Multi- Tasking/ Time- participating Operating systems**

Time- participating operating system enables people located at a different terminal(shell) to use a single computer system at the same time. The processor time (CPU) which is participated among multiple druggies is nominated as time sharing.

**Real time OS**

A real time operating system time interval to reuse and respond to inputs is veritably small.   
exemplifications Army and space software systems serve as examples of real-time operating systems.

**Distributed Operating System**

Distributed systems use numerous processors located in different machines to give veritably fast calculation to its druggies.

**Network Operating System**

Network Operating System runs on a garçon. It provides the capability to serve to manage data, stoner, groups, security, operation, and other networking functions.

**Mobile OS**

Mobile operating systems are OS that have been designed to power smartphones, tablets, and wearable devices.   
The most commonly used mobile operating systems are Android and iOS, while others include BlackBerry, Web, and watch OS.

Below are the main functions of Operating System   
  
1. Process operation   
2. Memory operation.   
3. train operation   
4. Device   
5. I/ O System   
6. Secondary- storehouse   
7. Security   
8. Command interpretation   
9. Networking   
10. Job account   
11. Communication operation   
  
  
Then's a list important features of OS   
• defended and administrator mode   
• Allows fragment access and train systems Device motorists Networking Security   
• Program prosecution   
• Memory operation Virtual Memory Multitasking   
• Handling I/ O operations   
• Manipulation of the train system   
• Error Discovery and handling   
• Resource allocation   
  
  
Every system needs operating system to produce interface between stoner and tackle.   
We're designing the Alienware PC gaming PC. We use the Windows operating system since it's able of handling colorful tasks connected to the current trend of digital systems. For illustration   
• Gamming   
• Security   
• Performance   
• Productivity   
• Availability   
• Multitasking   
• AI backing

Windows 11 is the rearmost upgrade to Microsoft Windows that has replaced Windows 10.   
The biggest change is the new design and interface but there are numerous other advancements with Windows 11:  
  
  
• New Design   
• Changed Taskbar   
• Redesigned Settings App   
• Overhauled launch Menu   
• New Window Snap Layouts   
• Virtual Desktops