**Difference between Operating System and Kernel**

**[Operating System](https://www.geeksforgeeks.org/introduction-of-operating-system-set-1/):**   
It is a system program that provides interface between user and computer. When computer boots up Operating System is the first program that loads.

[**Kernel**](https://practice.geeksforgeeks.org/problems/what-is-kernel)**:**   
A kernel is the core component of an operating system. It is also a system program. It is the part of Operating System which converts user commands into machine language.

**Difference between Operating System and Kernel:**

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| Operating System | Kernel |
| Operating System is a system software. | Kernel is system software which is part of operating system. |
| Operating System provides interface between user and hardware. | Kernel provides interface between applications and hardware. |
| It also provides protection and security. | It’s main purpose is memory management, disk management, process management and task management. |
| All system needs operating system to run. | All operating systems need kernel to run. |
| Type of operating system includes single and multiuser OS, multiprocessor OS, Realtime OS, Distributed OS. | Type of kernel includes Monolithic and Micro kernel. |
| It is the first program to load when computer boots up. | It is the first program to load when operating system loads. |