Operating Systems  
Spring SEMESTER 2020

Student: Greg Witt

horizontal line

# Review of Chapter 1 PPT Terms:

1. **Resource Utilization:** How Elements of the OS software and its components are utilized, the Operating System isn’t concerned with Utilization and shared for this performance
2. **Resource Allocation: t**he OS chooses which resources are important and delegates their use appropriately throughout the system
3. **Bootstrap:** is Loaded into the Systems ROM as Firmware, at start up it initializes all aspects of the computer’s system. The Bootstrap program must know how to load the operating system on the computer.
4. **Interrupt:** Occurrences of I/O events from either hardware or software which signals the OS to stop what it is doing and moves the CPU to the location of the interrupt service routine from the system call. And handles the issues of the interrupt
5. **Vector Table:** Contains the addresses of all the service routines for the Interrupts that are called from the KSR
6. **Kernel:** Often the Reference to the Operating System itself, This is the program that is running all the time on the computer and is often refered to as the kernel
7. **Kernel Pool:** Memory Pool where Kernel objects are stored.
8. **System Call:** Calls from Interrupts that are called from software or hardware that stop the system from operating and for it to look at the interrupts and handle the correct responses accordingly
9. **Volatile Memory:** Main Memory is this type or memory, Meaning it is Random access and loses its data when the device is powered off.
10. **Non-Volatile Memory:** Location reserved for data that needs to be kept after the device is powered off solid-state disks which are magnetic tape systems.
11. **Device driver/ interrupt handler/ kernel service routine:** These are specific codes that are used to implement device drivers from the specified interrupt handlers from the system calls from IO devices
12. **Cache:** Components of the CPU that store data for quicker easier access, each core in a cpu has its own core of registers for this purpose
13. **Asymmetric Computing:** One computer is taking on the tasks that are required for running the applications, The other is in Hot-standby mode. In other words the one on stand-by is waiting for the other to fail in order to take over, this process requires one computer to monitor the activity of the other computer in the system.
14. **Symmetric Computing:** Two or More computers are running applications and tasks and monitoring each other's activities
15. **Kernel Mode:** Operation Mode for the System that is acknowledged by the mode bit, This bit indicates the operating system’s current mode. When it is set to 0 the bit is operating in the Kernel Mode. This mode is triggered by the user requesting a service from the operating system and causes the mode bit to operate in the kernel mode in order to satisfy the operations for the request. This keeps privileged instructions from the reaches of those who should not be allowed to access them.
16. **What is the Advantage of a *hash table* over a *binary search tree:*** Binary Search trees Have two different Big Os If they are sorted and not sorted, each are drastically more inefficient to the Key-value pairs of a hash table having a quicker access to key values instead of relying on unsorted or sorted algorithms.