CS 420 – Operating Systems

Homework 1

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1.)

* Multiprogramming, is also referred to as batch programming which makes use of fully utilizing the processor by having a batch of programs to run without the programmer to start new ones, and keeps the processor in use if the program is no longer using it by starting the next
* Multiprocessing, is having multiple processor to perform multiple operations/programs and the same exact time
* Each system was developed to satisfy the need to perform more operations at a faster and more efficient rate

2.)

* The concept of least privilege deals with the protection and security of information where a process can only access the information that is necessary for it to complete its task

3.)

* DMA which stands for direct memory access and cycle stealing are both methods of reading and writing to the computers memory with out the need for the CPU to perform any actions, which improves performance by allowing the

4.)

* The advantages of a distributed operating system is the ability to perform multiple operations at one time across multiple processors or make use of multiple ones for a much more intensive single or group of operations
* The main difficulty is the connection between computers, because LAN/Wired connectivity is much slower then the memory speed, therefore the operations have to match the speed discrepancy between machines.

5.)

* The development of time sharing let to the increase in computer programmer productive because it allowed an organization to have multiple programmers working on the same system concurrently, which increased productively because it took one computer to have multiple programmers rather then 1 to 1 programmer computer ratio.