**Operating System and System Administration**

**Tutorial 02 Year 02 Semester 01 2022 Department of Information Technology, Faculty of Computing**

1. Briefly explain the computer boot up process using a diagram.

When the user turns the start button, it creates an electrical signal, this turns the power supply on, which wakes up the CPU, when this happens it requires Access to fix the FFFFFF, once this is passed it access the EPROM for the bootstrap, meanwhile CMOS battery turns the CMOS Memory, which enables the power on self test. Meanwhile ROM loads to POST to determine if the diagnostic testing sequence is working, and if yes Load and execute bootstrap load in EPROM and load the MBR to the hard disk to start the OS. If it does not pass, CPU Will make a beep noice with the error

Diagram

Description automatically generated

1. Compare and contrast the asymmetric multiprocessing and symmetric multiprocessing.

Asymmetric MultiProcessing uses master slave theory, where one processor is the master that provides information to slave processors, master processor gives instructions necessary for the slave processor to work on making the system reliant on the master processor. These are more common in large systems

Symmetric Multi-Processing uses common a system where all the processors run an identical copy of the OS. Each processor has its own cache and register, but has the same main memory for all. This is a top solution for multitasking without significant performance drop

1. What is a clustered system? What is the main advantage of clustered system?

Clustered system is when a chain of different devices, rather processing systems connected together to perform tasks through LAN networking. Each of them are invidividual systems(nodes) which could consist of both single processor and multi processors. They share the same storage through LAN. Since many processors are running simultaneously, it provides high availability

1. What is virtual machine? What are the advantages of virtual machine?
2. What is push migration in symmetric multiprocessor system?
3. Briefly explain the each term.

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| Throughput |  |
| Microkernel |  |
| MS-DOS |  |
| Graceful degradation |  |
| Firmware |  |
| Seek time |  |
| Hard real time system |  |
| Degree of multiprogramming |  |
| Mode bit |  |