**Activity One Questions**

1. Explain the Operating System structure.

* Contains of multi-programmed system structures and non-multi-programmed system structures

1. What are the User view and System in the Operating System?

* The user view gives the user an interface to do the jobs easily and more securely to maximize the work.
* The system view manages the resources provided to it for an example: Storage and memory space, CPU time, I/O devices, etc.

1. List out the three purpose of the Kernel.

* Provides an interface needed for the applications to run.
* Launches and manages the applications.
* Manages the system hardware devices.

1. Differentiate Micro kernel and Monolithic kernel.

* Micro kernel provides better low level address space management, while the Monolithic Kernel the whole OS runs in the kernel space.
* Due to this adding new functionalities is easier in Micro Kernels.
* Micro Kernels are slower compared to Monolithic Kernel.
* Micro Kernel will not affect other components of the System even if one component fails, whilst in Monolithic Kernel Failure in one component WILL impact the rest.
* A Micro Kernel is smaller in size compared to Monolithic Kernel.

1. Write the difference between Kernel mode and user mode

* Kernel Mode is a process mode that enables software to have full unrestricted access to the system and it’s resources
* The OS Kernel and Kernel drivers are loaded into protected memory space and operates in a highly privileged Kernel Mode.
* In user mode the kernel prepares the memory space and recourses for the user-based applications use and launces the application in the User Mode.

1. What are the three types of Kernels?

* Monolithic Kernel
* Micro Kernel
* Hybrid Kernel

1. Explain, how multiple jobs are handled by main memory.

* A job pool is created in the disk consisting of all the processes awaiting allocation to main memory.
* The set of jobs can also be a subset of the jobs kept in the job pool.
* The OS switches and executes the jobs in waiting.

1. What is meant by Stack memory in Operating System?

* A stack memory is temporary a memory space created to store variables created by a function.

1. What is meant by Heap memory in Operating System?

* A heap memory is a dynamically allocated memory which is managed by the OS or a memory manager library.

1. What is meant by system call in Operating System?

* A system call is when a user requests services of the kernel space to execute a process. Ideally the bits changes from 0 to 1 after execution.