**Question 2**

The xv6 operating system uses interrupts to schedule I/O requests to the disk by generating an interrupt after a disk I/O request completes, the interrupt handler removes the completed request from queue of pending requests.

If there are still requests in the queue, the handler will begin the next request; otherwise, it will restore control to the scheduler.

The scheduler allocates a set amount of time for each process to run using a simple round-robin algorithm.

This allows for minimum time spent waiting for processes that are waiting for I/O operations.

**Question 4**

FUSE (Filesystem in Userspace) is a software interface that allows non-privileged users to create custom file systems without modifying any kernel code. File systems based on FUSE can be accessed in the same way as any other file system.

GlusterFS is a scalable distributed file system that is built on peer-to-peer architecture. It uses FUSE to create virtual file systems that span multiple storage nodes in a cluster. It provides load balancing, self-healing, automatic failover, and data storage location selection in addition to its unique hashing technique.