***Jaypee Institute of Information Technology, Noida***

***Operating System and System Programming lab [15B17CI472]***

***Assignment-9***

**Q.1 Write a C program to implement to simulate FCFS disk scheduling algorithm**.

{Note: One of the responsibilities of the operating system is to use the hardware efficiently. For the disk drives, meeting this responsibility entails having fast access time and large disk bandwidth. Both the access time and the bandwidth can be improved by managing the order in which disk I/O requests are serviced which is called as disk scheduling. The simplest form of disk scheduling is, of course, the first-come, first-served (FCFS) algorithm. This algorithm is intrinsically fair, but it generally does not provide the fastest service}

**Q.2 Implement a C program for shortest seek first algorithm.**

**{**  Shortest seek time first (SSTF) algorithm selects the disk I/O request which requires the least disk arm movement from its current position regardless of the direction. It reduces the total seek time as compared to FCFS.}

**Q.3 Write a C program which shows the functionality of SCAN disk scheduling algorithm.**

{In the SCAN algorithm, the disk arm starts at one end, and moves towards the other end, servicing requests as it reaches each cylinder, until it gets to the other end of the disk. At the other end, the direction of head movement is reversed, and servicing continues. The head continuously scans back and forth across the disk}

**Q.4 Write a C program to implement to simulate C-SCAN disk scheduling algorithm.**

**{**C-SCAN is a variant of SCAN designed to provide a more uniform wait time. Like SCAN, C-SCAN moves the head from one end of the disk to the other, servicing requests along the way. When the head reaches the other end, however, it immediately returns to the beginning of the disk without servicing any requests on the return trip.}