**Assignment No. 2**

**Write-up**

2. Process control system calls: The demonstration of fork, execve and wait system calls along with zombie and orphan states.

a. Implement the C program in which main program accepts the integers to be sorted. Main program uses the fork system call to create a new process called a child process. Parent process sorts the integers using merge sort and waits for child process using wait system call to sort the integers using quick sort. Also demonstrate zombie and orphan states.

b. Implement the C program in which main program accepts an integer array. Main program uses the fork system call to create a new process called a child process. Parent process sorts an integer array and passes the sorted array to child process through the command line arguments of execve system call. The child process uses execve system call to load new program that uses this sorted array for performing the binary search to search the particular item in the array.

* What is process?
* What is system call?
* fork()
* sleep()
* wait()
* waitpid()
* exec family
  + execve()
* States
  + Orphan
  + Zombie
  + Daemon
* Commands with options
  + pstree
  + ps