**Assignment - II** **Sept 13, 2021**

**Due:** Sunday, Sept 19, 2021 11:59 pm IST

1. Using Shared memory (**shmget()** system call) Implement the C program in which main program accepts 10 integers to be sorted. Main program uses the fork() system call to create two new processes called child process. Parent process sorts the integers using merge sort and waits (using wait() system call) for child process to sort the integers using quick sort.

***Steps***:

1. Parent process P takes ten integer elements as user input.
2. P creates two child processes C1 and C2.
3. P puts the integer array of 10 elements in shared memory.
4. P shares the first five elements with C1 and the next five elements with C2 and waits for C1 and C2 to finish their tasks.
5. Each C1 and C2 sorts the shared elements (five each) using quicksort and puts back the sorted array to the shared memory. Now, the first five elements are sorted, and the last five elements are also sorted.
6. Once C1 and C2 finish their tasks, process P should apply mergesort to merge the two sorted partitions.
7. P prints the sorted array and exits.