Self Learning Lab Tasks

(Considered for grading)

40 Marks

Evaluation Date: Apr 5 2019 (During Lab Session)

Task-a: Learning how to create and use static libraries

Create a static library for following functions:
Linear search, Binary Search and Hashing function

Task-b: Learning how to create and use dynamic libraries

Create a dynamic library for following functions:
Quick sort and merge sort

Task-c: Learning how to create and use shared memory among processes

Shmctl, shmat, shmdt, shmget

Write a c program server, it generates 100 random numbers in shared memory

Write a c program client, it reads those 100 numbers from shared memory and add another 100 new random numbers into shared memory (which should be entirely new random numbers from old 100 random numbers)

Task-d: Learning how to create and use mmap files
Write a c program to read a file and map it into memory
Then by using mmap contents
Convert the text into upper case
Finally write updated contents into the same file using mmap sync function

Note: (You should not use read, write, fread, fwrite, fgets, fputs, fprintf, fscanf functions)