

## QUESTION NO. 02:

You have learned merge sort in data structures which sorts an array in  $n \log n$  time, it is a divide and conquer technique. We can enhance the performance of merge sort using the multithreading. First of all, you have to check the processor cores of your system, let's suppose your system processor has 4 cores. Now you have to create 4 threads and divide the array among these threads and sort them using merge sort. You have to take size of array and array elements from user. For this question you have to submit three things multithreaded merge sort c/c++ code, screenshot of available cores in your system and also the mac address screenshot of your system. No need to implement merge sort from scratch you can use merge sort code from internet but provide the link of source in the code.

**Important:** No of threads will be equivalent to no of cores in your system. We will verify no of cores and mac address at the time of demo, if anyone cores and mac address mismatched at the time of demo will be awarded zero marks.