FAST- National university of Computer and Emerging Sciences

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**CS 205: Operating Systems**

**Parallel Programming - Comparison of sorting Algorithms using:  
Pthreads vs. OpenMP vs. serial**

**Project Report**

**Supervised:**

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**Introduction:**

This project compares different type parallel programming techniques (pthread , openmp) and serial programming to determine which of these method is most efficient. Three different types of sorting algorithms will be tested/checked with each of these techniques to give detailed analysis and determine the most consistent and efficient programming method.

**Programs:**

We will make different programs, one for each ( pthread , openmp and serial).  
Three different algorithms (merge sort, insertion sort, bubble sort) will be implemented inside each module. Then, we will compare all the modules with other to compare performances, resources etc

**Results:**







**Conclusion:**

All these sorting algorithms and coding methods were tested on arrays of size 2000, and tested 100 times, the resultant time was averaged to minimize inconsistency. As expected, OpenMP was the fastest programming method followed by Pthread, while the slowest ended up being the Serial method.  
  
OpenMP > Pthread > Serial