**INFO 6205**

**Program Structures & Algorithms**

**Fall 2020**

**Assignment No 05**

* **Task： Parallel sort**
* **Processing:** 
  + **I have run Partsort.sort with CutOff value from 1000 to 500000 and with array size 1000000. When CutOff value increasing, the time consuming by Partsort is dereasing. When cutoff over 250000, the time cost by sorting increase. Based on the data collected from my program, the best cutoff value is between 177000 and 250000. The minimum time can be less than 360 MS when sorting a random array with 1000000 size.**
  + **If the array size is less than million level, like 5000, it only needs a few MS to sort the array, which is similar to the mergesort’s efficiency.**
* **Conclusion: When we need to sort million-sized array, partsort with cutoff from 177000 to 250000 can do the best job in 360 MS which is quite faster than the mergesort that costs in around a second.**
* **Screenshot**

**Array size = 1000000 Cutoff from 1000 to16000**

* **表格

  描述已自动生成**

**Array size = 1000000 Cutoff from 171000 to 195000**

* **表格

  描述已自动生成**

**Array size =5000**

* **表格

  描述已自动生成**