

REPORT:

(A) For variable array size :

- It has been observed for lower cutoff values that System sort is more efficient than the parallel sort implemented which we observed by noting the timestamp.
- Sorting becomes efficient as we increase cut off
- Ideal cutoff can be concluded as little more than 10 % of the array element which generates threads as well as takes less time in sorting
- The observations are in the excel file named 'assignment5_results' in the project directory

(B) For an array of fixed size - 2000

when we try to use the parallel sort technique, the best cut off value, based on multiple runs and taking an average is - 350

	A	B	C	D	E	F	G	H	I	J	K	L
1	CutOff	t1	t2	t3	t4	t5	t6	t7	t8	t9	t10	Total/10
2	1200	6	5	6	5	6	7	6	5	7	4	5.7
3	1000	2	1	1	2	1	1	1	1	1	1	1.2
4	500	1	1	1	2	1	1	2	5	2	1	1.7
5	350	1	0	1	1	1	1	4	0	1	0	1
6	200	8	11	16	3	2	3	5	2	11	3	6.4
7	100	20	12	12	11	11	10	12	10	12	9	11.9
8	50	14	11	9	12	12	41	13	12	7	12	14.3

As it can be seen, any cut off value, lower than 350, yields a bad performance, hence making it a bad choice.

Although, the values of 500 and 1000 see good performance results, the minimum cut off value is however 350.