IN3030 - oblig1

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Runtimes in ms:

K = 20

	n					
	1000	10000	100000	1000000	10000000	100000000
a2 (Sequential)	0.045751	0.264225	0.740241	0.909879	6.801472	60.238604
a2 (Parallel)	0.812722	0.878522	1.005493	0.937123	2.63248	18.534797
Arrays.sort()	0.191229	0.62972	8.321044	67.001694	778.589931	9193.372878

K = 100

	n					
	1000	10000	100000	1000000	10000000	100000000
a2 (Sequential)	0.251374	0.989557	0.894457	2.167774	11.222867	74.248681
a2 (Parallel)	0.946377	1.031196	1.172047	1.617219	4.627531	24.029026
Arrays.sort()	0.191229	0.62972	8.321044	67.001694	778.589931	9193.372878

Speedup:

	n					
	1000	10000	100000	1000000	10000000	100000000
k = 20	0.056293542	0.300760823	0.736197069	0.970928043	2.58367471	3.250027718
k = 100	0.265617191	0.959620673	0.763157962	1.340433176	2.425238642	3.089957995

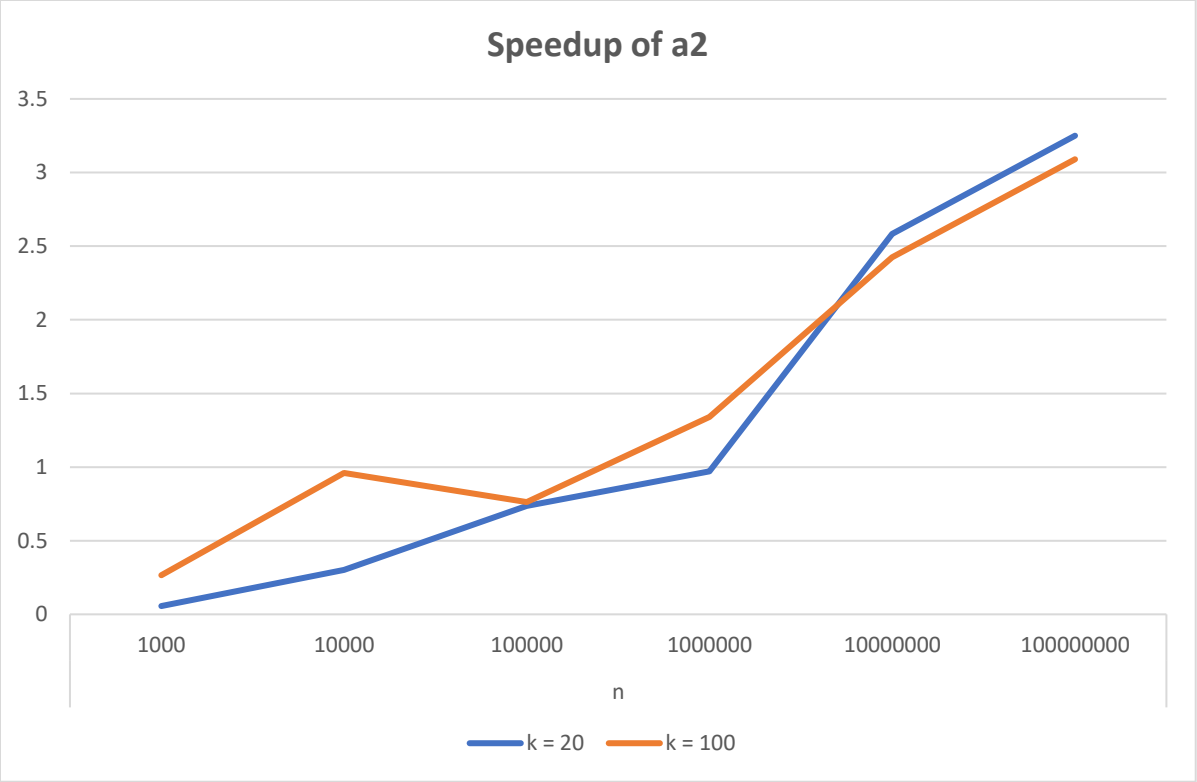
Computer specifications:

CPU:

Intel(R) Core(TM) i7-8550U CPU @ 1.80GHz

Cores: 4

Logical processors: 8



Comments:

The parallel code has a speedup > 1 for following combinations of n and k:

- $n \geq 10^6$, k = 20
- $n \geq 10^7$, k = 100.