

Lab 3 Report

Andres Calderon

acald013@ucr.edu

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1 Part 1

2 Part 2

Number of Cores	Optimization			
	Baseline	Remove evens	Remove Bcast	Reorder loops
4	92.40	44.75	44.61	18.92
6	63.15	30.96	30.31	12.45
8	47.10	23.17	22.41	9.11
10	39.85	18.95	18.11	7.04
12	33.27	16.00	15.22	5.99
14	27.97	13.64	12.99	5.11
16	24.91	12.11	11.43	4.51
18	22.07	10.71	10.13	4.01
20	19.52	9.56	9.10	3.54
22	17.59	8.67	8.28	3.24
24	16.17	7.92	7.67	2.85
26	14.96	7.34	7.05	2.75
28	13.85	6.79	6.55	2.54
30	13.12	6.40	6.20	2.39

Table 1: Comparing the four versions of the Sieve of Erastosthenes.

3 Part 3

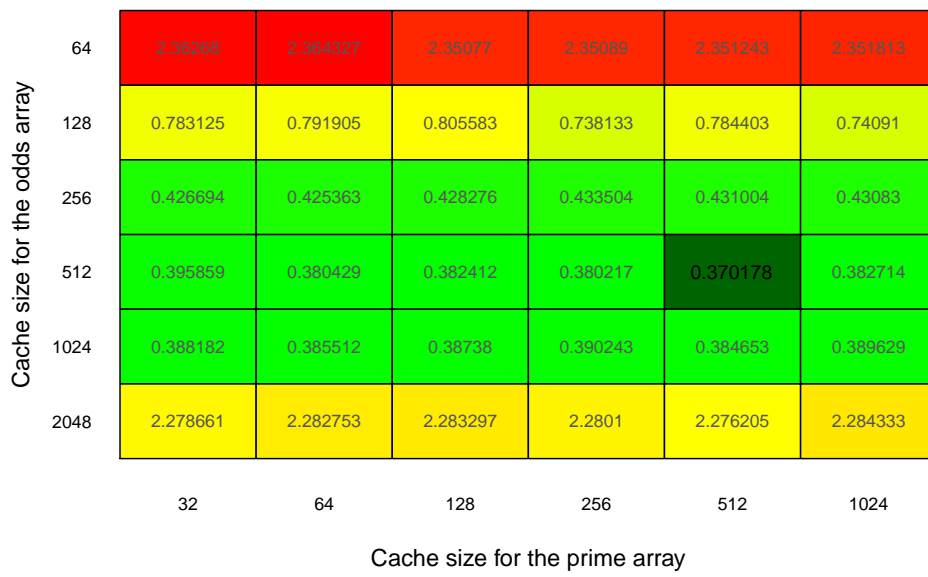


Figure 1: Execution time in seconds of different cache sizes for prime and odds arrays.

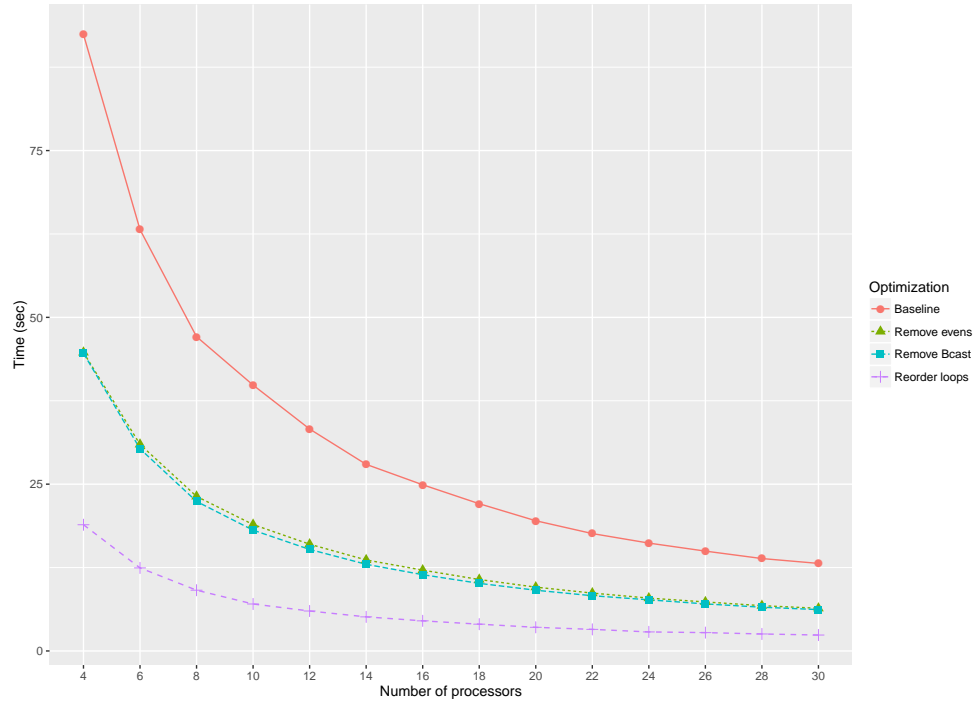


Figure 2: Execution time of the Sieve of Erastosthenes and its optimizations.

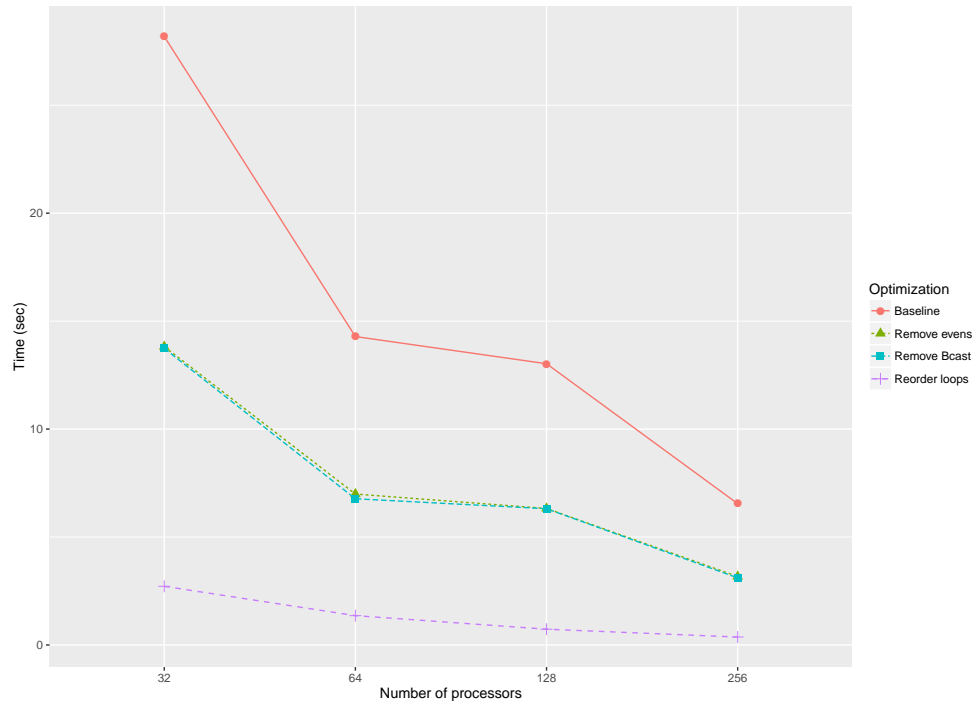


Figure 3: Execution time of the Sieve of Erastosthenes and its optimizations.

Number of Cores	Optimization			
	Baseline	Remove evens	Remove Bcast	Reorder loops
32	28.18	13.82	13.74	2.72
64	14.28	6.99	6.77	1.36
128	13.03	6.32	6.31	0.73
256	6.55	3.17	3.11	0.37

Table 2: Comparing the four versions of the Sieve of Erastosthenes.