

# CS4402

## Parallel and Grid Computing V2

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I ran these test in WGB G21.

### **MPI\_Odd\_even\_sort():**

The following table gives details on execution times when using n elements and p processors.

No. Elements (n)	No. Processors (p)	Total Execution Time (Secs)
10	2	0.000953
10	4	0.002512
1000	2	0.001263
1000	4	0.002470
1000	6	0.008259
1000	8	0.00980
10000	2	0.016890
10000	4	0.012932
10000	6	0.022730
10000	8	0.024765
100000	2	0.084439
100000	4	0.038589
100000	6	0.044101
100000	8	0.033395

1000000	4	0.414467
1000000	6	0.507504
1000000	8	0.362334
1000000	10	0.329116
1000000	12	0.311452

From the table above, it can be deduced that communication overheads cause increases in execution times, when the program is applied to smaller size arrays. Performance takes a considerable hit due to this.

It is not until larger size arrays, upwards of 100000, are used that a tangible decrease in execution time is achieved.