

Comparision of CUDA sorting algorithms

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January 27, 2016

1 Sorted

| Quantity | Radixsort | Bitonic Sort | Quicksort | STL Sort |
|-----------|-----------|--------------|-----------|----------|
| 10000 | 0.33s | 0.40s | 0.41s | 0.00s |
| 1000000 | 1.10s | 0.45s | 0.49s | 0.85s |
| 100000000 | 83.60s | 6.59s | 4.58s | 10.46s |

2 Reversed

| Quantity | Radixsort | Bitonic Sort | Quicksort | STL Sort |
|-----------|-----------|--------------|-----------|----------|
| 100000 | 0.35s | 0.38s | 0.38s | 0.00s |
| 10000000 | 0.41s | 1.05s | 0.43s | 0.08s |
| 100000000 | 69.97s | 6.53s | 4.14s | 8.18s |

3 Randomized

| Quantity | Radixsort | Bitonic Sort | Quicksort | STL Sort |
|-----------|-----------|--------------|-----------|----------|
| 10000 | 0.42s | 0.36s | 0.38s | 0.00s |
| 1000000 | 1.13s | 0.43s | 0.45s | 0.23s |
| 100000000 | 71.62s | 7.51s | 4.01s | 25.88s |

4 Notes

Of course sort from STL isn't implemented on CUDA, but I wanted to have a comparison with fast CPU algorithm.