Parallel Sorting of Roughly-Sorted Sequences

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Introduction

Sorting a collection according to some ordering among its items is among the most classic problems of computer science. A well-established result is the linearithmic (i.e. $O(n \lg n)$) optimal upper bound for sorting sequences of length n by comparison.

References

- [1] Tom Altman and Bogdan Chlebus. Sorting roughly sorted sequences in parallel. *Information Processing Letters*, 33(6), February 1990.
- [2] Tom Altman and Yoshihide Igarashi. Roughly sorting: Sequential and parallel approach. Journal of Information Processing, 12(2), 1989.
- [3] J. Cheng, M. Grossman, and T. McKercher. Professional CUDA C Programming. Wrox, 1st edition, September 2014.
- [4] Intel. Intel® Digital Random Generator (DRNG) Software Implementation Guide, 1.1 edition, August 2012.
- [5] Donald E. Knuth. The Art of Computer Programming, volume 3. Addison-Wesley, 2nd edition, 1998.
- [6] George Marsaglia. Xorshift rngs. Journal of Statistical Software, 8(14), July 2003.
- [7] N. Wilt. The CUDA Handbook: A Comprehensive Guide to GPU Programming. Addison-Wesley Professional, 1st edition, June 2013.

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