CC371: Analysis and Design of Algorithms

Bonus Programming Assignment

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Part 1 Selection Algorithms

Benchmark	Mode	Cnt	Score	Error	Units
Benchmarks1000.sort1000_medianOfMedians	avgt		24475.460		ns/op
Benchmarks1000.sort1000_naive	avgt		24766.459		ns/op
Benchmarks1000.sort1000_randomized	avgt		8162.536		ns/op
Benchmarks10000.sort10000_medianOfMedians	avgt		258028.728		ns/op
Benchmarks10000.sort10000_naive	avgt		381181.582		ns/op
Benchmarks10000.sort10000_randomized	avgt		83585.125		ns/op
Benchmarks100000.sort100000_medianOfMedians	avgt		2523442.454		ns/op
Benchmarks100000.sort100000_naive	avgt		4219847.385		ns/op
Benchmarks100000.sort100000_randomized	avgt		712522.107		ns/op
Benchmarks1000000.sort1000000_medianOfMedians	avgt		25336915.634		ns/op
Benchmarks1000000.sort1000000_naive	avgt		51022454.945		ns/op
Benchmarks1000000.sort1000000_randomized	avgt		8103038.875		ns/op
Benchmarks10000000.sort10000000_medianOfMedians	avgt		253394782.353		ns/op
Benchmarks10000000.sort10000000_naive	avgt		570676564.706		ns/op
Benchmarks10000000.sort10000000_randomized	avgt		71766659.551		ns/op

Figure 1.1

- Randomized Median algorithm runs faster than the others as shown in figure 1.1

Part 2 Huffman Compression and Decompression

- **Insert n = 1 byte**
- **Insert n = 3 byte**
- **Insert n = 5 byte**