# Sorting Speed Example
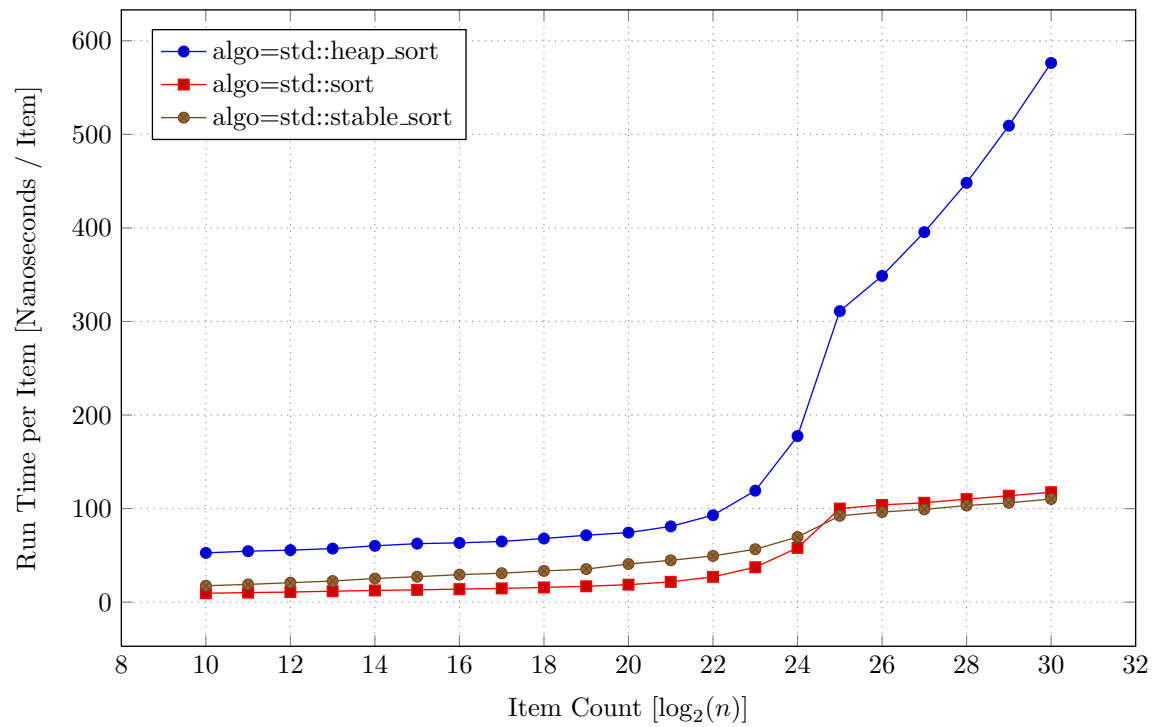
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Simple C++ Sorting Test

| $n$ | std::sort | std::stable_sort | STL heap sort |
|---|---|---|---|
| $2^{10}$ | **9.5** | 17.5 | 52.7 |
| $2^{11}$ | **10.2** | 19.0 | 54.5 |
| $2^{12}$ | **10.8** | 20.8 | 55.6 |
| $2^{13}$ | **11.7** | 22.6 | 57.3 |
| $2^{14}$ | **12.5** | 25.3 | 60.2 |
| $2^{15}$ | **13.2** | 27.2 | 62.6 |
| $2^{16}$ | **13.9** | 29.4 | 63.4 |
| $2^{17}$ | **14.7** | 31.0 | 64.9 |
| $2^{18}$ | **15.8** | 33.4 | 68.0 |
| $2^{19}$ | **17.0** | 35.4 | 71.5 |
| $2^{20}$ | **18.7** | 40.8 | 74.3 |
| $2^{21}$ | **21.7** | 44.7 | 81.0 |
| $2^{22}$ | **27.1** | 49.4 | 92.9 |
| $2^{23}$ | **37.4** | 56.6 | 119.1 |
| $2^{24}$ | **58.0** | 69.6 | 177.5 |
| $2^{25}$ | 100.0 | **92.3** | 311.0 |
| $2^{26}$ | 103.9 | **96.3** | 348.7 |
| $2^{27}$ | 106.3 | **99.2** | 395.5 |
| $2^{28}$ | 110.1 | **103.3** | 448.2 |
| $2^{29}$ | 113.8 | **106.1** | 509.2 |
| $2^{30}$ | 117.5 | **110.2** | 576.3 |

Table 1: Runtime per element for different sorting implementation, median of 15 runs.