Quicksort Analysis

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1K | 5K | 10K | 15K | 20K | 25K | 50K |
| Sorted | 0 | 0 | 1 | 1 | 1 | 2 | 3 |
| Random | 1 | 1 | 2 | 3 | 4 | 5 | 10 |
| Reverse | 0 | 1 | 0 | 1 | 2 | 1 | 4 |

With this graph, we can see that quicksort performs dramatically better than most other sorting algorithms. Notice however that quicksort doesn’t perform the worst when the array is completely reversed; instead it takes the most time when the input is random.