Insertion Sort Analysis

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1K | 5K | 10K | 15K | 20K | 25K | 50K |
| Sorted | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Random | 2 | 60 | 230 | 529 | 949 | 1539 | 5853 |
| Reverse | 5 | 118 | 467 | 1076 | 1895 | 2924 | 11715 |

Clearly from this chart, we see that sorted array trivially takes no time while a array of random inputs which would be the average case takes roughly half the time of reversed list and sorted list.

Reversed list being the worse case time, does indeed take the most time. We can really start seeing the difference in time when the input size jumps from 25K to 50K. Furthermore the curve is skewed left.