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**Time Efficiency for Search Algorithms**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| List Size | Find Value | Search 1  (milliseconds) | Search 2 (milliseconds) | Binary Search (milliseconds) |
| 100 | 99 | 0 | 0 | 0 |
| 1.000 | 999 | 0 | 0 | 0 |
| 10.000 | 9999 | 0 | 0 | 0 |
| 100.000 | 32767 | 0 | 0 | 0 |
| 500.000 | 32767 | 15 | 0 | 0 |

The time complexity of Search 1 is O(n).

The time complexity of Search 2 is O(log n).

The time complexity of Binary Search is O(log n).

**Time Efficiency for Fibonacci Algorithms**

|  |  |  |  |
| --- | --- | --- | --- |
| n-th term | Value | Recursive Fibonacci (milliseconds) | Iterative Fibonacci (milliseconds) |
| 4 | 3 | 6 | 2 |
| 8 | 21 | 4 | 2 |
| 16 | 987 | 2 | 2 |
| 32 | 2178309 | 31 | 1 |
| 35 | 9227465 | 107 | 1 |
| 40 | 102334155 | 1118 | 1 |
| 45 | 1134903170 | 12813 | 2 |
| 46 | 1836311903 | 20528 | 2 |

The time complexity of Recursive Fibonacci is O(2^n) whereas it is O(n) for Iterative Fibonacci.

**Time Efficiency for Sort Algorithm**

|  |  |
| --- | --- |
| List Size | Time to Sort |
| 10.000 | 724 |
| 50.000 | 19340 |
| 100.000 | 74593 |
| 500.000 | 1847694 |

The time complexity of Bubble Sort is O(n^2).