Monday 8th November 2021

Linear Search

Linear Search

A linear search is sequential. This means that it goes from the beginning of the list to the end, checking each item as it goes along. For example, to find the number 37, it would start from the beginning and work through the list until it finds the item it is looking for or reaches the end of the list.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Index | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Item | 20 | 35 | 47 | 40 | 45 | 50 | 51 | 55 | 67 |

Brute Force

A linear search is an example of a brute force algorithm. It does not use any special techniques, only raw computing power. It is not a very efficient method as each search starts at the beginning and keeps going until the correct item in found.

Advantages and Disadvantages

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| --- | --- |
| Advantages | Disadvantages |
| List does not have to be sorted  Simple to program | *Very slow for long lists*  *Inefficient* |
|  |  |