SEARCHING

Searching algorithms look for a specific value in a list.

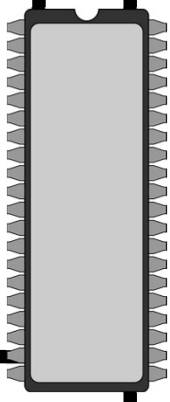
LINEAR

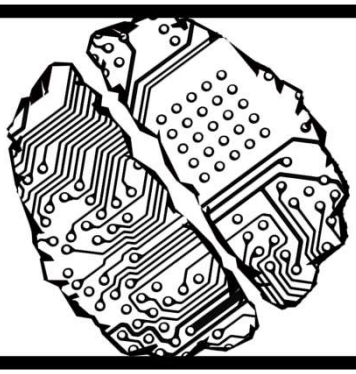
The search is performed in a 'line'

Search "Item"

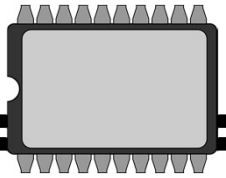
Position = "Index"

BINARY





Binary search is called a 'divide & conquer' algorithm



FLAG

A flag is a Boolean value to indicate a true / false value to 'halt' the algorithm.

SEARCHING ALGORITHMS

Complete the algorithms in Pseudocode!

Unsorted Lists

LINEAR

```
List = [3, 7, 9, 2, 5, 10]
search _____________
found _____________
pos _________

WHILE (found _________) AND (pos < len(List) ) DO
    IF List[pos] _____ search THEN
        found ___ TRUE
    END IF
END WHILE
```

Sorted Lists

BINARY

Binary search is called 'divide and conquer' because each time a loop is executed, the list size halves!

```
List = [3, 7, 9, 2, 5, 10]
search _____________
high _____________
low _________
mid _________

WHILE (high _________) AND (search _____ List[mid]) DO
    IF search < _____________ THEN
        high _____________
    ELSE
        low _____________
    END IF
    mid ___ (high - low) DIV 2
END WHILE
```

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SEARCHING ALGORITHMS

Key Words	Notes
Linear Search	O_n
Binary Search	O_{n^2}
Order of Complexity (Big O)	
Comparing Algorithms Time & Memory Complexity	

Summary