Sequential Search

Check out the video lecture for a full breakdown, in this Notebook all we do is implement Sequential Search for an Unordered List and an Ordered List.

Sequential Search

In [1]:
```
def seq_search(arr,ele):
    """
    General Sequential Search. Works on Unordered lists.
    """

    # Start at position 0
    pos = 0
    # Target becomes true if ele is in the list
    found = False

    # go until end of list
    while pos < len(arr) and not found:

        # If match
        if arr[pos] == ele:
            found = True

        # Else move one down
        else:
            pos  = pos+1

    return found
```

In [2]:
```
arr = [1,9,2,8,3,4,7,5,6]
```

In [4]:
```
print(seq_search(arr,1))
```

```
True
```

In [5]:
```
print(seq_search(arr,10))
```

```
False
```

Ordered List

If we know the list is ordered than, we only have to check until we have found the element or an element greater than it.

In [6]:
```
def ordered_seq_search(arr,ele):
    """
    Sequential search for an Ordered list
    """
    # Start at position 0
    pos = 0
```

```
    # Target becomes true if ele is in the list
    found = False

    # Stop marker
    stopped = False

    # go until end of list
    while pos < len(arr) and not found and not stopped:

        # If match
        if arr[pos] == ele:
            found = True

        else:

            # Check if element is greater
            if arr[pos] > ele:
                stopped = True

            # Otherwise move on
            else:
                pos  = pos+1

    return found
```

In [7]:
```
arr.sort()
```

In [8]:
```
ordered_seq_search(arr,3)
```

Out[8]:
```
True
```

In [9]:
```
ordered_seq_search(arr,1.5)
```

Out[9]:
```
False
```

Good Job!