# BINARY SEARCH

Binary search works only on sorted data stored in arrays .

```
In [1]:  def BinarySearch(arr,left,right,target):
             while(left<=right):
                 mid = (left+right)//2
                 if arr[mid] == target :
                     return mid
                 elif arr[mid] < target:
                     left = mid+1
                 elif arr[mid] > target:
                     right = mid-1
             return -1
```

```
In [5]:  arr = [7,6,3,4,8]
         left = 0
         right = 4
         target = 4
         BinarySearch(arr,left,right,target)
         # ans 3
```

Out[5]:  3

```
In [6]:  arr = [7,6,3,4,8]
         left = 0
         right = 4
         target = 10
         BinarySearch(arr,left,right,target)
         # ans -1
```

Out[6]:  -1

## Time Complexity

Binary Search is also known as half interval search or Logarithmic Search Time complexity O(logn) -
- base 2

```
In [ ]:
```

```
In [ ]:
```