



Linear Search

```
1 var linearSearch = function(a,target) {
2   //walk through the array
3   for(var i = 0;i<a.length;i++) {
4     var data=a[i];
5     console.log("Comparing "+data+"
with "+target);
6     if(data==target) {
7       return i;
8     }
9   }
10  //If we don't find it, return -1
11  return -1
12 }
13
14 var a = [27, 5, 59, 31, 79, 2, 9, 40];
15 var result = linearSearch(a,9);
16 console.log("==> Find it at index: "
+result);
17
```

Run Session

```
Native Chrome JavaScript.
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Comparing 27 with 9
Comparing 5 with 9
Comparing 59 with 9
Comparing 31 with 9
Comparing 79 with 9
Comparing 2 with 9
Comparing 9 with 9
==> Find it at index: 6
```

Binary Search

```
1 //Same as: var function binarySearch = function(a,target)
2
3 function binarySearch(a,target) {
4   //Find the middle element
5   var midIndex = Math.floor(a.length/2);
6
7   if (target<a[midIndex]) {
8     //Our target left of the middle
9     var new_array=a.slice(0,midIndex - 1);
10    return binarySearch(new_array,target);
11  }
12  else if (target > a[midIndex]){
13    //Target is the right of the middle
14    var new_array = a.slice(midIndex-1,a.length-1);
15    return binarySearch(new_array,target)+midIndex;
16  }
17
18  else {
19    //Out target is the middle!
20    return midIndex;
21  }
22 }
23
24 var a = [8, 9, 13, 17, 22, 31, 54, 98];
25 var result = binarySearch(a,9);
26 console.log("==> Find it at index: "+result);
27
```

Run Session

```
Native Chrome JavaScript.
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==> Find it at index: 1
```