

Binary Search

In the worst case of searching an array for a number you would have to look through the entire array.

However, if you know that the array is sorted, you can do this much faster.

This is a method of searching based on searching in half of a data structure to find a value faster than going through entire array.

Pseudo code

```
int binarySearch(arr, target) {
    L, R = 0, len(arr) - 1

    while L <= R {
        mid = (L + R) // 2

        if target > arr[mid]
            L = mid + 1
        else if target < arr[mid]
            R = mid - 1
        else
            return mid
    }
    return -1
}
```