Binary Search

- Data must be sorted!
- Choose the element in the middle of the array and compares it against the search value
- If element is equal to the value we're don
- If element is greater than the value, search the left half of the array
- If the element is less than the value, search the right half of the array
- At some point, there will be only one element in the partition you're checking, but it doesn't have to get to that point
- Can be implemented recursively
- O(logn) – keeps dividing the array in half

-22	-15	1	7	20	35	55

Search value: 1

Start = 0

End = 7

Midpoint = (start + end) / 2 = 3

Array[3] = 7 – this is greater than 1, so we'll look at the left half of the array

Start = midpoint + 1 = 2

End = 3

Midpoint = (start + end) / 2 = 2

Array[2] = 1 – we have found our value