

binSearch Trace

0 1 2 3 4
4 8 15 16 23

search 8

low: 0
high: 4
mid: 2
elem: 15

low: 0
high: 1
mid: 0
elem: 4

low: 1
high: 1
mid: 1
elem: 8

0 1 2 3 4
4 8 15 16 23

search 16

low: 0
high: 4
mid: 2
elem: 15

low: 3
high: 4
mid: 3
elem: 16

3 iterations

0 1 2 3 4
4 8 15 16 23

search 15

low: 0
high: 4
mid: 2
elem: 15

1 iteration

0 1 2 3 4
4 8 15 16 23

search 3

low: 0
high: 4
mid: 2
elem: 15

low: 0
high: 1
mid: 0
elem: 4

low: 0
high: -1

```
[4, 8, 15, 16, 23]
BoogleCount.binSearch(salamander, 8) (1)
binSearchR count: 3
1
BoogleCount.binSearch(salamander, 15) (2)
binSearchR count: 1
2
BoogleCount.binSearch(salamander, 16) (3)
binSearchR count: 2
3
BoogleCount.binSearch(salamander, 3) (-1)
binSearchR count: 3
-1
```

0 1 2 3 4 5
4 8 15 16 23 42

Search 8

low : 0
high : 5
mid : 2
elem : 15

low : 0
high : 1
mid : 0
elem : 4

low : 1
high : 1
mid : 1
elem : 8

return

0 1 2 3 4 5
4 8 15 16 23 42

Search 3

low : 0
high : 5
mid : 2
elem : 15

low : 0
high : 1
mid : 1
elem : 8

low : 0
high : 0
mid : 0
elem : 4

low : 0
high : -1

0 1 2 3 4 5
4 8 15 16 23 42

Search 15

low : 0
high : 5
mid : 2
elem : 15

0 1 2 3 4 5
4 8 15 16 23 42

Search 16

low : 0
high : 5
mid : 2
elem : 15

low : 3
high : 5
mid : 4
elem : 23

low : 3
high : 3
mid : 3
elem : 16

```
[4, 8, 15, 16, 23, 42]
BoogleCount.binSearch(salamander, 8) (1)
binSearchR count: 3
1
BoogleCount.binSearch(salamander, 15) (2)
binSearchR count: 1
2
BoogleCount.binSearch(salamander, 16) (3)
binSearchR count: 3
3
BoogleCount.binSearch(salamander, 3) (-1)
binSearchR count: 3
-1
```