

## Index of Last Occurrence

I/P:  $l = [10, 15, 20, 20, 40, 40]$

$x = 20$

O/P: 3

I/P:  $l = [5, 8, 8, 10, 10]$

$x = 10$

O/P: 4

I/P:  $l = [8, 10, 10, 12]$

$x = 7$

O/P: -1

Naive Approach

```
def lastOcc(l, x):
```

```
    for i in reversed(range(len(l))):
```

```
        if l[i] == x:
```

```
            return i
```

```
    return -1
```

Iterative Binary Search

```
def lastOcc(l, x):
```

```
    low = 0
```

```
    high = len(l) - 1
```

```
    while low <= high:
```

```
        mid = (low + high) // 2
```

```
        if l[mid] < x:
```

```
            low = mid + 1
```

```
        elif l[mid] > x:
```

```
            high = mid - 1
```

```
        else:
```

```
            if mid == len(l) - 1 or l[mid] != l[mid + 1]:
```

```
                return mid
```

```
            else:
```

```
                low = mid + 1
```

```
    return -1
```