Searching

Problem Statement

0	1	2	3	4	5	6	7
2	4	10	12	14	20	27	30

↓ Index number

$x = 27$

↳ Output = 6

Time complexity: $O(n)$

↳ Linear Search

↳ Binary Search

```
for(i=0; i<n; i++){
    if(arr[i] == x){
        print(i);
        break;
    }
}
return -1;
```

Space complexity

$O(1)$

Advantage

↳ Simple to understand

↳ Useful in every kind of an array (Sorted or Unsorted)

↳ No additional memory

Disadvantage

↳ $n = 10^{2000}$ → time required High

↳ $O(n)$