

## ① Linear Search Algorithm

CODE:

```
for (int i = 0; i < arr.size(); i++) {  
    if (arr[i] == target)  
        return i;  
}  
return -1;
```

## ② Bar chart.

```
 *  
 *  
 * *  
 * *  
 * *  
 * *  
 * *  
 * *  
 * *  
 * *  
3 1 0 7 5
```

```
n = maxVal; // maxm value in array  
while (n > 0) {
```

```
    for (int i = 0; i < n; i++) {
```

```
        if (arr[i] >= n)  
            print (*1);
```

```
    else
```

```
        print (1);
```

```
    }  
    print newline;  
    n--;
```

```
}
```

Number of rows = maximum element in the array  
 $\because a[i] > 0 \ \forall i \in \{0, N-1\}$

Number of columns = N.

Loop for  $i = \text{maxVal}$  to 0,  $\text{deg} - 1$

Loop for  $j = 0$  to  $n-1$ ,  $\text{deg} + 1$

```
if (arr[j] >= i)
```

```
    print star (*)
```

```
else
```

```
    print tab space (1)
```

