Linear Search

a [3, 7, 2, 5, 15, 20]

Size = 6

target = 15

i

```
0 to < a.length
  if (a[i] == target)
    {
      found
      break
    }
```

output =

Found at index 4

found = false ✓ true target = ~~3~~ 4

[3, 7, 8, 92]

```
for(i=0; i<a.length ; i++) {
    if [a[i] == target) {
            console.log(i);
            found = true;
            break;
    }
}
if (!found) { console.log("Not Found"); }
```

1

Exception Error

4/2 = 2 number

4/0 = X number

12/4

4/0

0 4

16/3

7/2

[3, 7, 8, 9]
0 1 2 3

Index out of bound

print → a[9]

try {

}catch{

}

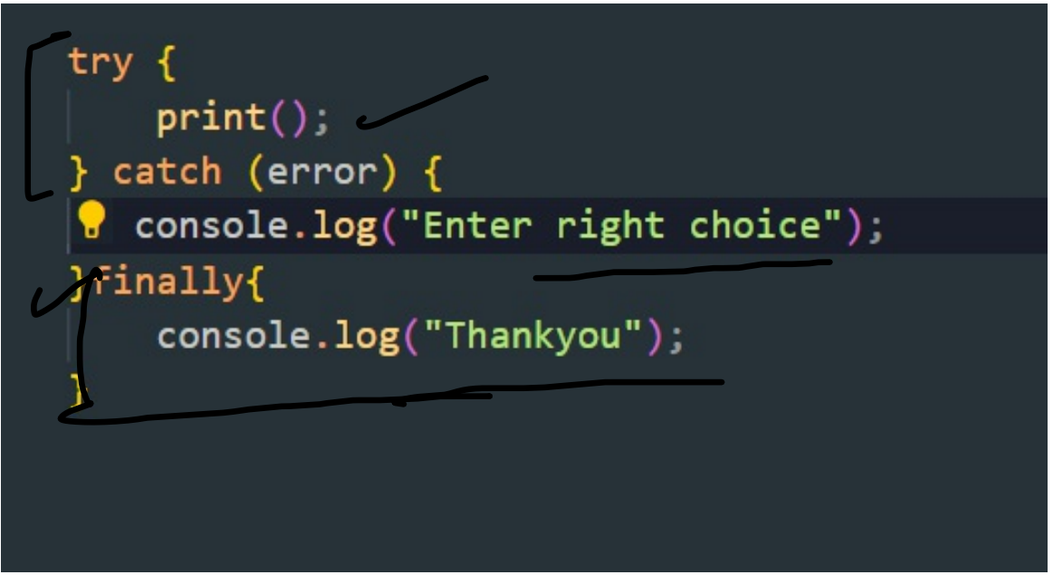
Error

Syntax

.let → lat

console

logical →


try {
print();
} catch (error) {
console.log("Enter right choice");
}finally{
console.log("Thankyou");
}

Binary Search

$O(\log(n))$

target → 15

$$[\,2,\ 3,\ 9,\ 15,\ 22\,]$$

0	1	2	3	4
		↑	↑	↑
l		m	t	h

$m = (h+l)/2$

$m = 4+0/2$

$= 4/2$

$= 2$

While ($l <= h$)

- $a[m] == target$
- $a[m] > target \rightarrow h = m-1$
- $a[m] < target \rightarrow l = m+1;$

$l <= h$