

Floor of Number

- // same thing as before, just return end instead of -1, if no target found.
Let's check:

[start target end]

$[end \quad ans \quad start] \Rightarrow start > end$

* So answer is End, if target not found

Let's code:

Floor (int[] arr, int start) {

```
int start = 0;
```

```
int end = arr.length - 1;
```



```
while (start <= end) {
```

```
    int mid = start + (end - start) / 2;
```

```
    if (target > arr[mid]) {
```

```
        start = mid + 1;
```

```
    }
```

```
    else if (target < arr[mid]) {
```

```
        end = mid - 1;
```

```
    }
```

```
    else {
```

```
        return mid; // target found
```

```
    }
```

```
}
```

```
return end; // answer greatest number
```

```
} // smaller than target if not  
found.
```