

FLOOR AND CEILING

★ In this problem, we are supposed to return that number which is smaller than our target but greater than all others and also that number which is greater than our target but smaller than all others.

This has two possible approaches, either we take an approach similar to lower Bound & upper bound, but instead of just changing ans value, we compare and keep track of floor & ceiling.

The other approach is to return the values of high and low when the binary search fails at the end.

Pseudocode :

```
floorAndCeiling(arr, N, a) {  
    low = 0, ans = INT_MIN  
    high = N - 1  
    while (low <= high) {  
        if (arr[mid] == a) {  
            return arr[mid]  
        } else if (arr[mid] < a) {  
            ans = arr[mid]  
            low = mid + 1  
        } else {
```

high = mid - 1

}

}

return ans

}