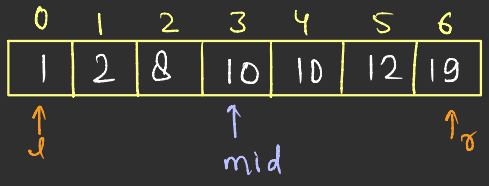
## (7) Find Floor of an element in a Sorted Array

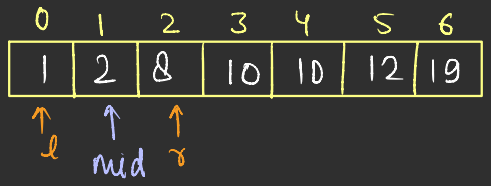
Floor of an element x is the largest element in the array smaller than or equal to x.




, x = 5

a[mid] > x → This is definitely not an answer

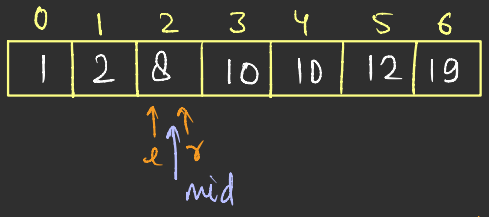
ceil = mid = 3 ↳ go left




a[mid] < x → This could be a floor value

↳ mark it as a possible floor value & Go right.

floor = mid = 1




a[mid] > x → Go left

l > r → exit

ceil = 2

Similarly, we can find out ceil of an element in a Sorted array.

↑ Smallest element greater than or equal to x.

Keynote: