

Binary Search : Divide and conquer technique : Pre-requisite : Sorted Array

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① Key = 77

left Sub array					Right Subarray			
[0]	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
11	22	33	44	55	66	77	88	99

left mid Right

② left = 0

Right = 8

$$\text{mid} = \frac{\text{left} + \text{Right}}{2}$$

$$\text{mid} = \frac{0 + 8}{2} = 4$$

[0]	[1]	[2]	[3]
11	22	33	44

L = 5
R = 8
 $M = \frac{(5+8)}{2}$
= 6

RSA:

[5]	[6]	[7]	[8]
66	77	88	99

left mid Right

③ compare key with mid element
★ $77 == \text{arr}[\text{mid}]$.
if no, go to step 4

③ compare $\text{key} == \text{arr}[\text{mid}]$;
★ $77 == 77$
found key at index 6.

④ check if key is smaller to mid element or greater.

if key is smaller to mid element
Continue search in left Subarray
Else continue search in right Subarray.