Key = 77

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

left   mid   right
Left Sub-array   Right Sub array.

Left = 0
Right = 8.
mid = 4.

1) Get the key from the user.

2) Divide the array into half.
   Find the left index, right index and the mid
   index
   Left : 0
   Right : 8
   Mid = (left + right) / 2
       =(0+8) / 2
       = 4

3) Compare the key with the element at mid
   index.
   If(key == arr[mid])
   If yes, return the corresponding index,
   Else, go to step 4

4) Check if the key is smaller to the element at
   mid index or greater.
   If the key is smaller, continue your search in
   the left sub-array,
   If the key is greater continue your search in
   the right sub-array.

   LSA is from   0 to 3.
   RSA is from   5 to 8.

   Left to mid-1 → Left Sub-array.
   mid +1 to Right → Right SA.

As 77 is greater to 55, we will continue our search in the
Right sub-array.
Right sub array starts from mid+1 to right

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

left   mid   right

Continue steps 2, 3 and 4 till the key is found.

2) Divide the array into half.
   Left : mid + 1 : 4+1 : 5
   Right : 8
   mid : (left + right) / 2
       (5+8) / 2
       13/2 = 6
   Mid = 6

3) Compare the key with the element at mid index.
   If(key == arr[mid])

   77 == arr[6]
   Yes, key found at index 6