Ternary Search

20	40	60	80	100	120
0	1	2	3	4	5

left = 0 ,

right = len(arr) - 1

target ⟶ 80

mid1 = left + (right - left) / 3

mid2 = right - (right - left) / 3

mid1 = 0 + (5 - 0) / 3 = 1

mid2 = 5 - (5 - 0) / 3 = 5 - 5/3 = 4

80 != 40 and 100 but 80 greater than 40 and less than 100 means 80 lies in mid part

40	60	80
1	2	3

mid1 = 1 + (3 - 1) / 3 = 1

mid2 = 3 - (3 - 1) / 3 = 3

80 != 40 but 80 == 80 which means we can return mid2 index as output

Time complexity ⟶ $O(\log_3 n)$

Made with Goodnotes