

2. Define Binary Search in details with example.

Definition :- In Computer Science a binary search or half interval search algorithm finds the position of a target value within a sorted array. The binary search algorithm can be classified as a dichotomies divide-and-conquer search algorithm and executes in logarithmic time.

example :-

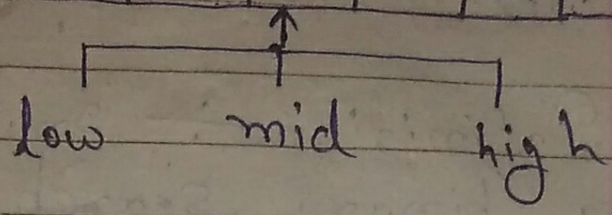
0	1	2	3	4	5	6	7	8
6	12	17	23	38	45	77	84	90

Search (45)

0	1	2	3	4	5	6	7	8
6	12	17	23	38	45	77	84	90
↑				↑				↑
low				mid				High

0	1	2	3	4	5	6	7	8
6	12	17	23	38	45	77	84	90
				↑	↑			↑
				low	mid			High

0	1	2	3	4	5	6	7	8
6	12	17	23	38	45	77	84	90



Successfully Search

$$45 = 45$$