# Binary Search

**Sudo Code:**

low=0; high=n-1;

while(low <= high){

mid = (low + high)/2 [if there is possibility of overflow then “ mid=low+(high-low)/2”]

if(arr[mid] == target) return mid;

else if(arr[mid] < target) low = mid+1;

else high = mid - 1;

}

return -1;

**Recursive Binary Search:**

int bs(vector<int>&nums, int low, int high, int target){

if(low > high) return -1;

int mid = (low+high)/2;

if(nums[mid] == target) return mid;

else if(nums[mid] > target) bs(nums, low, mid-1, target);

return bs(nums, mid+1, high, target);

}