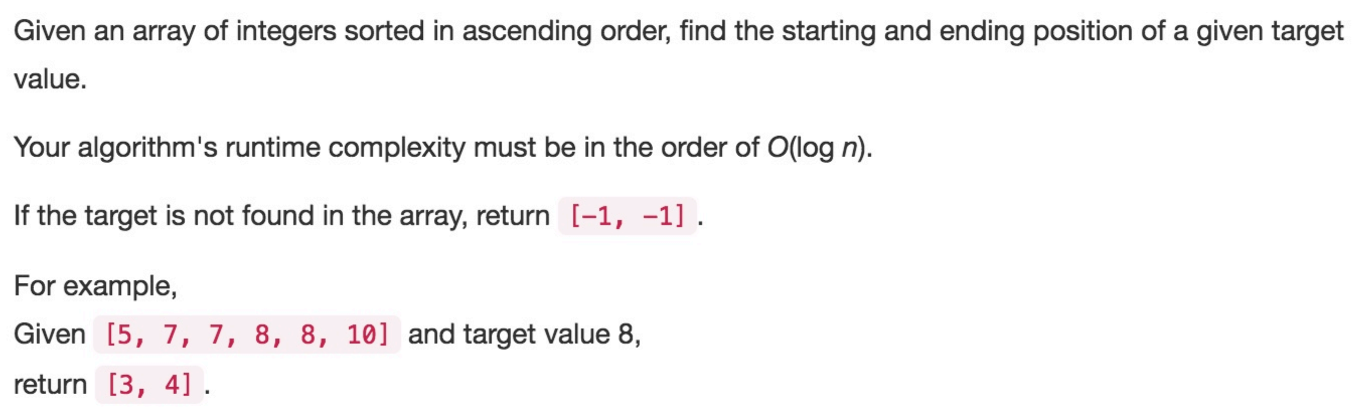
034. Search for a Range

034 Search for a Range

- **Binary Search**+array

Description



Given an array of integers sorted in ascending order, find the starting and ending position of a given target value.

Your algorithm's runtime complexity must be in the order of *O*(log *n*).

If the target is not found in the array, return `[-1, -1]`.

For example,
Given `[5, 7, 7, 8, 8, 10]` and target value 8,
return `[3, 4]`.

1. Thought line

2. Binary Search+array

```
class Solution {
private:
    void binarySearchRange(vector<int>& nums, int target, int st, int ed, int& indexMin, int& indexMax){
        if (st>ed) return;
        if (target<nums[st] || target>nums[ed]) return;
        if (st==ed && nums[st]!=target) return;
        if (st==ed && nums[st] == target){
            if (indexMin == -1 && indexMax == -1)
                indexMin = indexMax = st;
            else{
                indexMin = st<indexMin?st:indexMin;
                indexMax = st>indexMax?st:indexMax;
            }
        }
        else{
            int mid = (st+ed)/2;
            binarySearchRange(nums, target, st, mid, indexMin, indexMax);
            binarySearchRange(nums, target, mid+1, ed, indexMin, indexMax);
        }
    }

public:
    vector<int> searchRange(vector<int>& nums, int target) {
        int indexMin = -1, indexMax = -1;
        binarySearchRange(nums, target, 0, nums.size()-1, indexMin, indexMax);
        return vector<int>{indexMin, indexMax};
    }
};
```