

Given a sorted array and a number x, find the pair in array whose sum is closest to x

最接近的两数之和问题

1. 双指针 + diff (diff为 $\text{arr}[\text{left}] + \text{arr}[\text{right}]$ 与 X 的差值的绝对值, 遇到比diff小的, 则替换当前数对)
2. 接下来, 判断:
3. 如果 $\text{arr}[\text{left}] + \text{arr}[\text{right}] > X$, 则 $\text{right} -= 1$
4. 如果 $\text{arr}[\text{left}] + \text{arr}[\text{right}] < X$, 则 $\text{left} += 1$

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#include <bits/stdc++.h>

using namespace std;

void sumCloseX(vector<int> &arr, int &N, int &X) {
    int left = 0, right = N - 1, diff = INT_MAX;
    int leftIdx = 0, rightIdx = 0;
    while (left < right) {
        if (abs(arr[left] + arr[right] - X) < diff) {
            leftIdx = left;
            rightIdx = right;
            diff = abs(arr[left] + arr[right] - X);
        }
        if (arr[left] + arr[right] > X) right--;
        else left++;
    }
    printf("%d %d\n", arr[leftIdx], arr[rightIdx]);
}

int main() {
    int T;
    scanf("%d", &T);
    while (T--) {
        int N, X;
        scanf("%d %d", &N, &X);
        vector<int> arr(N);
        for (int i = 0; i < N; ++i) {
            scanf("%d", &arr[i]);
        }
        sumCloseX(arr, N, X);
    }
    return 0;
}
```

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}
```