

# Find the closest pair from two sorted arrays

给定两个数组，元素一一对应，以及整数X，找到使得 $\text{abs}(\text{arr1}[i] + \text{arr2}[j] - X)$  最小的  $\text{arr}[i]$ 与 $\text{arr}[j]$

采用二分法，low指针在arr1内查找，high指针在arr2内查找

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#include <bits/stdc++.h>

using namespace std;

void closestPair(vector<int> &arr1, vector<int> &arr2, int &N, int &X) {
    int low = 0, high = N - 1, diff = INT_MAX;
    int l, r;
    while (low < N && high >= 0) {
        if (abs(arr1[low] + arr2[high] - X) < diff) {
            l = low;
            r = high;
            diff = abs(arr1[low] + arr2[high] - X);
        }
        if (arr1[low] + arr2[high] > X) {
            high--;
        } else
            low++;
    }
    printf("%d %d", arr1[l], arr2[r]);
}

int main() {
    int T;
    scanf("%d", &T);
    while (T--) {
        int N, X;
        scanf("%d %d", &N, &X);
        vector<int> arr1(N), arr2(N);
        for (int i = 0; i < N; ++i)
            scanf("%d", &arr1[i]);
        for (int i = 0; i < N; ++i)
            scanf("%d", &arr2[i]);
        closestPair(arr1, arr2, N, X);
    }
    return 0;
}
```