```cpp
#include <bits/stdc++.h>
using namespace std;

typedef long long int ll;


ll D[10100];
ll n,num,X,mid;

ll binary search(ll lo, ll hi){
    mid = (lo+hi)/2;
    if(lo > hi or mid == X) return -1;
    if(num==D[mid]) return mid;
    else if(num < D[mid]) return binary search(lo,mid-1);
    else if(num > D[mid]) return binary search(mid+1,hi);
}

main(){
    ios base::sync with stdio(0);
    cin.tie(0);
    ll y,ans,ans1,aux;

    while(cin >> n){
        for(int i=0;i<n;i++){
            cin >> D[i];
        }
        cin >> y;
        sort(D,D+n);
        ans = -1;
        ans1 = -1;
        for(X=0;X<n;X++){
            num = y - D[X];
            aux = -1;
            if(num < D[X])
                aux = binary search(0,X-1);
            if(aux !=-1){
                if(ans==-1){
                    ans = aux;
                    ans1 = X;
                }
                else{
                    if(abs(D[X]-D[aux]) < abs(D[ans]-D[ans1])){
                            ans = aux;
                            ans1 = X;
                    }
                }
            }
        }
        if(ans <= ans1)
            cout << "Peter should buy books whose prices are " << D[ans] << " and
            " << D[ans1] << "." << endl;
        else
            cout << "Peter should buy books whose prices are " << D[ans1] << " and
            " << D[ans] << "." << endl;
        cout << endl;
    }
}

```