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ECE D

QuestionText1

Sunny and Johnny like to pool their money and go to the ice cream parlor. Johnny never buys the same flavor that Sunny does.The only other rule they have is that they spend all of their money.
Given a list of prices for the flavors of ice cream,select the two that will cost all of the money they have.
Forexample,theyhave***m=6***tospendandthereareflavors costing ***cost = [1, 2, 3, 4, 5, 6]***. The two flavors costing ***1***and***5***meetthecriteria.Using***1***-basedindexing,theyareat indices ***1*** and ***4***.

FunctionDescription

Completethecodeintheeditorbelow.Itshouldreturnanarray containing the indices of the prices of the two flavors theybuy.
Ithasthe following:

· m:anintegerdenotingtheamountofmoneytheyhaveto spend
· cost:anintegerarraydenotingthecostofeachflavorofice cream

InputFormat

Thefirstlinecontainsaninteger,***t***,denotingthenumberoftrips to the ice cream parlor. The next ***t*** sets of lines each describeavisit.Eachtripisdescribedasfollows:

1. Theinteger***m***,theamountofmoneytheyhavepooled.
2. Theinteger***n***,thenumberofflavorsofferedatthetime.

3. ***n***space-separatedintegersdenotingthecostofeachflavor: ***cost[cost[1],cost[2],...,cost[n]]***.

Note: Theindexwithinthecostarrayrepresentstheflavorof the ice cream purchased.

Constraints

68·***1≤t≤50***

·***2≤m≤104***

·***2≤n≤104***

·***1≤cost[i]≤104,"iÎ[1,n]***

·Therewillalwaysbeauniquesolution.

OutputFormat

For each test case, print two space-separated integers denotingtheindicesofthetwoflavorspurchased,inascending order.

SampleInput

2

4

5

14532

4

4

2243

SampleOutput

14

12

Explanation

SunnyandJohnnymakethefollowingtwotripstotheparlor:

1. Thefirsttime,theypooltogether***m=4***dollars.Ofthefive flavors available that day, flavors ***1*** and ***4*** have a total costof***1+3=4***.

2. Thesecondtime,theypooltogether***m=4***dollars.TOfthe four flavors available that day, flavors ***1*** and ***2*** have a totalcostof***2+2=4***.

```c
#include<stdio.h>
int main(){
int t,m,n,c=0;
scanf("%d",&t);
for(int i=0;i<t;i++)
{
    c=0;
    scanf("%d\n%d",&m,&n);
    int arr[n];
    for(int j=0;j<n;j++)
    {
        scanf("%d",&arr[j]);
    }
    for(int a=0;a<n-1;a++)
    {
        for(int b=a+1;b<n;b++)
        {
            if(arr[a]+arr[b]==m)
            {
                printf("%d %d\n",a+1,b+1);
                c=1;break;

            }
        }
       if(c==1)
        {
            break;
        }
    }
}
}
```

	Input	Expected	Got	
✓	2 4 5 1 4 5 3 2 4 4 2 2 4 3	1 4 1 2	1 4 1 2	✓

Passed all tests! ✓

Questiontext2

NumerostheArtisthadtwolistsThatwerepermutationsofone another. He was very proud. Unfortunately, while transporting them from one exhibition to another, some numberswerelostoutofthefirstlist.Canyoufindthemissing numbers?

Asanexample,thearraywithsomenumbersmissing,***arr=[7, 2, 5, 3, 5, 3]***. The original array of numbers ***brr = [7, 2,5,4,6,3,5,3]***.Thenumbersmissingare***[4,6]***.

Notes

· Ifanumberoccursmultipletimesinthelists,youmustensure that the frequency of that number in both lists is thesame.Ifthatisnotthecase,thenitisalsoamissing number.

.Youhavetoprintallthemissingnumbersinascendingorder.

· Printeachmissingnumberonce,evenifitismissingmultiple times.
· Thedifferencebetweenmaximumandminimumnumberin the second list is less than or equal to ***100***.
Completethecodeintheeditorbelow.Itshouldreturnanarray of missing numbers.
Ithasthe following:
· arr:thearraywithmissingnumbers
· brr:theoriginalarrayofnumbers

InputFormat

Therewillbefourlinesofinput:
n-thesizeofthefirstlist,***arr***
Thenextlinecontains***n***space-separatedintegers***arr[i] m*** - the size of the second list, ***brr***
Thenextlinecontains***m***space-separatedintegers***brr[i]***

Constraints

· ***1≤n,m≤2x105***
· ***n≤m***
· ***1≤brr[i]≤2x104***
· ***Xmax–Xmin<101***

OutputFormat

Outputthemissingnumbersinascendingorder.

SampleInput

10
203204205206207208203204205206
13
203204204205206207205208203206205206204

SampleOutput

204205206

Explanation

204ispresentinbotharrays.Itsfrequencyin***arr***is***2***,whileits frequency in ***brr***is ***3***. Similarly, ***205*** and ***206*** occur

twicein***arr***,butthreetimesin***brr***.Therestofthenumbers have the same frequencies in both lists.

```c
#include<stdio.h>
int main(){
    int n,m,c1=0,co,c;
    scanf("%d",&n);
    int arr[n];
    for(int a=0;a<n;a++){
        scanf("%d",&arr[a]);
    }
    scanf("%d",&m);
    int brr[m];
    int ans[m];
    for(int b=0;b<m;b++){
        scanf("%d",&brr[b]);
    }
    for(int j=0;j<m;j++)
    {
        c=0;
        for(int i=0;i<n;i++){
            if(arr[i]==brr[j]){
                c=1;
                arr[i]=-1;
                break;
            }
    }
    if(c==0)
    {
    ans[c1]=brr[j];
    c1++;
    }
    }
    for(int a=0;a<c1;a++)
    {
        co=0;
        for(int b=0;b<c1;b++){
            if(ans[b]<ans[a])
            co++;
        }
        int temp=ans[a];
        ans[a]=ans[co];
        ans[co]=temp;
    }
    for(int i=0;i<c1;i++)
    printf("%d ",ans[i]);
    return 0;
    }
```

	Input	Expected	Got	
✓	10 203 204 205 206 207 208 203 204 205 206 13 203 204 204 205 206 207 205 208 203 206 205 206 204	204 205 206	204 205 206	✓

Passed all tests! ✓

Questiontext3

WatsongivesSherlockanarrayofintegers.Hischallengeisto find an element of the array such that the sum of all elementstotheleftisequaltothesumofallelementstothe right. For instance, given the array ***arr = [5, 6, 8, 11]***, ***8*** isbetweentwosubarraysthatsumto***11***.Ifyourstartingarray is ***[1]***, that element satisfies the rule as left and right sumto***0***.

Youwillbegivenarraysofintegersandmustdetermine whether there is an element that meets the criterion.
Completethecodeintheeditorbelow.Itshouldreturnastring, either YES if there is an element meeting the criterion orNO otherwise.
Ithasthe following:
· arr:anarrayofintegers

InputFormat

The first line contains ***T***, the number of test cases.
Thenext***T***pairsoflineseachrepresentatestcase.
- Thefirstlinecontains***n***,thenumberofelementsinthearray ***arr***.
- Thesecondlinecontains***n***space-separatedintegers***arr[i]*** where***0≤i<n***.

Constraints

· ***1≤T≤10***
· ***1≤n≤105***
· ***1≤arr[i]≤2x104***
· ***0≤i≤n***

OutputFormat

ForeachtestcaseprintYESifthereexistsanelementinthe array, such that the sum of the elements on its left is equalto the sum of the elements on its right; otherwise print NO.

Sample Input 0

2
3
123
4
1233

SampleOutput0

NO
YES

Explanation0

Forthefirsttestcase,nosuchindexexists.
Forthesecondtestcase,***arr[0]+arr[1]=arr[3]***,therefore index ***2*** satisfies the given conditions.

SampleInput1

733
5
11411
4
2000
4
0020

SampleOutput1

YES
YES
YES

Explanation1

Inthefirsttestcase,***arr[2]=4***isbetweentwosubarrays summing to ***2***.
Inthesecondcase,***arr[0]=2***isbetweentwosubarrays summing to ***0***.
Inthethirdcase,***arr[2]=2***isbetweentwosubarrayssumming to ***0***.

```c
#include<stdio.h>
int main()
{
    int t,n,is,rs,m;
    scanf("%d",&t);
    for(int i=0;i<t;i++){
        is=0;
        rs=0;
        scanf("%d",&n);
        int arr[n];
        for(int j=0;j<n;j++)
        scanf("%d",&arr[j]);
        m=n/2;
        if(arr[m]==0){
            for(m=0;arr[m]==0&&m<n;m++);
        }
        for(int j=0;j<=m;j++)
        is=is+arr[j];
        for(int j=m;j<n;j++)
        rs=rs+arr[j];
        printf("%s\n",(is==rs)?"YES":"NO");
    }
}
```

	Input	Expected	Got	
✓	3 5 1 1 4 1 1 4 2 0 0 0 4 0 0 2 0	YES YES YES	YES YES YES	✓
✓	2 3 1 2 3 4 1 2 3 3	NO YES	NO YES	✓

Passed all tests! ✓