	Input	Expected	Got	
✔	6 3 4 8 7 1 2	1 2 3 4 7 8	1 2 3 4 7 8	✔
✔	6 9 18 1 3 4 6	1 3 4 6 9 18	1 3 4 6 9 18	✔
✔	5 4 5 2 3 1	1 2 3 4 5	1 2 3 4 5	✔

Ex. No. : 10.2 **Date: 01.06.24**

Register No.: 231901018 **Name Kavin Sainath S**

Peak Element

Givenan list,findpeakelementinit.Apeakelementisanelementthatisgreaterthanitsneighbors.

AnelementA[i]isapeakelementif

A[i-1]<=A[i]>=a[i+1]formiddleelements.[0<i<n-1]

A[i-1]<=A[i]forlastelement[i=n-1]

A[i]>=A[i+1]forfirstelement[i=0]

Input Format

Thefirstlinecontainsasingleintegern ,thelengthofA .
Thesecondlinecontains n space-separatedintegers,A[i].

Output Format

Print peaknumbersseparatedbyspace.

Sample Input

5

891026

Sample Output

106

For example:

Input	Result
4 12368	128

Program:

```
a=int(input())
lst1=[str(x) for x in input().split(" ")]
lst2=[]
lst=[]
g=0
for i in lst1:
    if i.isdigit():
        g=int(i)
        lst.append(g)
for i in range(0,a):
    if(i==0):
        if(lst[i]>=lst[i+1]):
            lst2.append(lst[i])
    elif(i>0 and i<a-2):
        if(lst[i]>=lst[i-1] and lst[i]>=lst[i+1]):
            lst2.append(lst[i])
    elif(i==a-1):
        if(lst[i]>=lst[i-1]):
            lst2.append(lst[i])
for i in lst2:
    print(i,end=" ")
```

	Input	Expected	Got	
✔	7 15 7 10 8 9 4 6	15 10 9 6	15 10 9 6	✔
✔	4 12 3 6 8	12 8	12 8	✔

Ex. No. : 10.3 **Date: 01.06.24**

Register No.: 231901018 **Name: Kavin Sainath S**

Merge Sort

WriteaPythonprogramtosorta list ofelementsusingthemergesortalgorithm.

For example:

Input	Result
5 65438	34568

Program:

```
def merge_sort(arr):
    if len(arr) > 1:
        mid = len(arr) // 2
        left_half = arr[:mid]
        right_half = arr[mid:]
        merge_sort(left_half)
        merge_sort(right_half)
        i = j = k = 0
        while i < len(left_half) and j < len(right_half):
            if left_half[i] < right_half[j]:
                arr[k] = left_half[i]
                i += 1
```

```
            else:
                arr[k] = right_half[j]
                j += 1
            k += 1
        while i < len(left_half):
            arr[k] = left_half[i]
            i += 1
            k += 1
        while j < len(right_half):
            arr[k] = right_half[j]
            j += 1
            k += 1
def main():
    n = int(input())
    arr = list(map(int, input().split()))
    merge_sort(arr)
    for num in arr:
        print(num, end=" ")
if __name__ == "__main__":
    main()
```

	Input	Expected	Got	
✔	5 6 5 4 3 8	3 4 5 6 8	3 4 5 6 8	✔
✔	9 14 46 43 27 57 41 45 21 70	14 21 27 41 43 45 46 57 70	14 21 27 41 43 45 46 57 70	✔
✔	4 86 43 23 49	23 43 49 86	23 43 49 86	✔

Ex. No. : 10.4 **Date: 01.06.24**

Register No.: 231901018 **Name: Kavin Sainath S**

Sum of Two numbers

AnlistcontainsNnumbersandyouwanttodeterminewhethertwoofthenumberssumtoa givennumberK.Forexample,iftheinputis8,4,1,6andKis10,theanswerisyes(4and6).Anumber maybeusedtwice.

Input Format

Thefirstlinecontainsasingleintegern,thelengthoflist

Thesecondlinecontainsnspace-separatedintegers,list[i].

Thethirdlinecontainsintegerk.

Output Format

PrintYesorNo.

Sample Input

7

0124653

1

Sample Output

Yes

For example:

Input	Result
5 8912153 11	Yes
6	No

Input	Result
29213243431 4	

Program:

```
n=int(input())
a=[int(x) for x in input().split()]
k=int(input())
flag=0
if len(a)!=n:
    print("No")
    flag=1
for i in a:
    for j in a:
        if i+j==k and flag==0:
            flag=1
            print("Yes")
            break
if flag==0:
    print("No")
```