Question 1

Question text
Given an array of numbers and a window of size k. Print the maximum of numbers inside the window for each step as the window moves from the beginning of the array.

input Format
input contains the array size, no of elements and the window size

Output Format
Print the maximum of numbers

Constraints
1 <= size <= 1000

Sample input 1
8
1 3 5 2 1 8 6 9
3

Sample Output 1
5 5 5 8 8 9

For example:

input	**Result**
8 1 3 5 2 1 8 6 9 3	5 5 5 8 8 9
10 3 7 5 1 2 9 8 5 3 2 3	7 7 5 9 9 9 8 5

Program:

```
#include <stdio.h>
int main() {
	int n,k;
	scanf(“%d”,&n);
	int a[n];
	for(int i=0;i<n;i++)
	{
		scanf("%d",&arr[i]);
	}
	scanf(“%d",&k);
	for(int a=0;a<=n-k;a++)
	{
		int max=arr[a];
		for(int b=a;b<a+k;b++)
		{
			if(arr[b]>max)
			{
				max=arr[b];
			}
		}
		printf("%d “,max);
	}
	return 0;
}
```

Output:

	Input	Expected	Got	
✓	8 1 3 5 2 1 8 6 9 3	5 5 5 8 8 9	5 5 5 8 8 9	✓
✓	10 3 7 5 1 2 9 8 5 3 2 3	7 7 5 9 9 9 8 5	7 7 5 9 9 9 8 5	✓

Passed all tests! ✓

Question 2

Question text
Given an array and a threshold value find the output.
input: {5,8,10,13,6,2}
Threshold = 3
Output count = 17

Explanation:

Number	Parts	Counts
5	{3,2}	2
8	{3,3,2}	3
10	{3,3,3,1}	4
13	{3,3,3,3,1}	5
6	{3,3}	2
2	{2}	1

input Format
N - no of elements in an array
Array of elements
Threshold value

Output Format
Display the count

Sample input 1
6
5 8 10 13 6 2
3

Sample Output 1
17

For example:

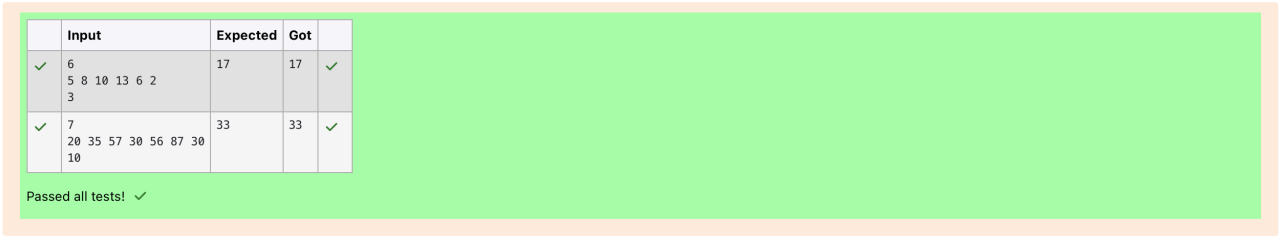
input	Result
6 5 8 10 13 6 2 3	17
7 20 35 57 30 56 87 30 10	33

Program:

```
#include<stdio.h>
int main() {
	int n,t,count=0;
	scanf("%d",&n);
	int arr[n];
	for(int i=0;i<n;i++)
	scanf("%d",&arr[i]);
	scanf("%d",&t);
	for(int j=0;j<n;j++)
	while(arr[j]>0) {
		arr[j]-=t;
		count++;
		}
	}
	printf(“%d”,count);
```

```
    return 0;
}
```

Output:



	Input	Expected	Got	
✓	6 5 8 10 13 6 2 3	17	17	✓
✓	7 20 35 57 30 56 87 30 10	33	33	✓

Passed all tests! ✓

Question 3

Question text

Output is a merged array without duplicates.

input Format

N1 - no of elements in array 1
Array elements for array 1
N2 - no of elements in array 2
Array elements for array2

Output Format

Display the merged array

Sample input 1

5
1 2 3 6 9
4
2 4 5 10

Sample Output 1

1 2 3 4 5 6 9 10

For example:

input	Result
5 1 2 3 6 9 4 2 4 5 10	1 2 3 4 5 6 9 10

Program:

```
#include <stdio.h>
int main() {
    int n1,n2;
    scanf("%d",&n1);
    int a[n1];
    for (int i = 0; i<n1; i++)
        scanf("%d",&a[i]);
    scanf("%d",&n2);
    int b[n2];
    for (int i=0; i<n2;i++)
        scanf("%d",&b[i]);
    int c[n1+n2];
    int i = 0; j = 0; k = 0;
    while (i < n1 && j < n2) {
        if (a[i] < b[j]) {
            c[k] = a[i];
            i++; k++;
        }
        else if (a[i] > b[j]) {
            c[k] = b[j];
            k++; j++;
        }
```

```
            else {
                c[k] = a[i];
                i++ j+; k++;
            }
        }
        while (i < n1) {
            c[k] = a[i];
            i++; k++;
        }
        while (j < n2) {
            c[k] = b[j];
            j+=; k++;
        }
        for (i = 0; i < k; i++)
            printf("%d ",c[i]);
        return 0;
}
```

Output:

	Input	Expected	Got	
✓	5 1 2 3 6 9 4 2 4 5 10	1 2 3 4 5 6 9 10	1 2 3 4 5 6 9 10	✓

Passed all tests! ✓