Do not Collection Interface

Do not use built-in methods

1. Given an array and an integer K, find the maximum for each and every contiguous subarray of size K.

Example-1 :

```
Input: arr[] = {1, 2, 3, 1, 4, 5, 2, 3, 6}, K = 3
Output: 3 3 4 5 5 5 6
Explanation: Maximum of 1, 2, 3 is 3
             Maximum of 2, 3, 1 is 3
             Maximum of 3, 1, 4 is 4
             Maximum of 1, 4, 5 is 5
             Maximum of 4, 5, 2 is 5
             Maximum of 5, 2, 3 is 5
             Maximum of 2, 3, 6 is 6
```

Example-2 :

```
Input: arr[] = {8, 5, 10, 7, 9, 4, 15, 12, 90, 13}, K = 4
Output: 10 10 10 15 15 90 90
Explanation:
Maximum of first 4 elements is 10, similarly for next 4 elements
(i.e from index 1 to 4) is 10, So the sequence generated is 10 10 10 15 15 90 90
```

==========

2. Add two numbers in the given base without converting into base.

Sample Input-1

```
123 13 4
```

Sample Output-1

```
202
```

Sample Input-2

```
1010 11001 2
```

Sample Output-2

```
100011
```

==========

3. Given an array and a threshold value find the o/p

Sample Input-1

```
{5,8,10,13,6,2}
threshold = 3
```

Sample Output-1

```
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

==========

4. Find if a String2 is substring of String1. If it is, return the index of the first occurrence. else return -1.

Sample Input-1

```
thistest123string123
123
```

Sample Output-1

```
8
```

==========

5. You are given an integer array nums consisting of 2 * n integers.

You need to divide nums into n pairs such that:

Each element belongs to exactly one pair.
The elements present in a pair are equal.
Return true if nums can be divided into n pairs, otherwise return false.

Example 1:

Input: nums = [3,2,3,2,2,2]
Output: true
Explanation:
There are 6 elements in nums, so they should be divided into 6 / 2 = 3 pairs.
If nums is divided into the pairs (2, 2), (3, 3), and (2, 2), it will satisfy all the conditions.
Example 2:

Input: nums = [1,2,3,4]
Output: false
Explanation:
There is no way to divide nums into 4 / 2 = 2 pairs such that the pairs satisfy every condition.

Constraints:

nums.length == 2 * n
1 <= n <= 500
1 <= nums[i] <= 500

==========

6. Given a fixed-length integer array arr, duplicate each occurrence of zero, shifting the remaining elements to the right.

Note that elements beyond the length of the original array are not written. Do the above modifications to the input array in place and do not return anything.

Example 1:

Input: arr = [1,0,2,3,0,4,5,0]
Output: [1,0,0,2,3,0,0,4]
Explanation: After calling your function, the input array is modified to: [1,0,0,2,3,0,0,4]

Example 2:

Input: arr = [1,2,3]
Output: [1,2,3]
Explanation: After calling your function, the input array is modified to: [1,2,3]

Constraints:

1 <= arr.length <= 10^4
0 <= arr[i] <= 9

==========