Warm Up Practise Set

Q1. Given an array of **N** integers. Your task is to print the sum of all of the integers.

Example 1:
Input:
4
1 2 3 4
Output:
10

Example 2:
Input:
6
5 8 3 10 22 45
Output:
93

Q2. Given an array **A[]** of **N** integers and an index **Key**. Your task is to print the element present at index key in the array.

Example 1:
Input:
5 2
10 20 30 40 50
Output:
30

Example 2:
Input:
7 4
10 20 30 40 50 60 70
Output:
50

Q3. Given an sorted array **A** of size **N**. Find number of elements which are less than or equal to given element **X**.

Example 1:
Input:
N = 6
A[] = {1, 2, 4, 5, 8, 10}
X = 9
Output:
5

Example 2:
Input:
N = 7
A[] = {1, 2, 2, 2, 5, 7, 9}
X = 2
Output:
4

Q4. You are given an array **A** of size **N**. You need to print elements of A in alternate order (starting from index 0).
Example 1:
Input:
N = 4
A[] = {1, 2, 3, 4}
Output:
1 3
Example 2:
Input:
N = 5
A[] = {1, 2, 3, 4, 5}
Output:
1 3 5

Q5. Given an array **Arr** of **N** positive integers. Your task is to find the elements whose value is equal to that of its index value (Consider 1-based indexing).
Example 1:
Input:
N = 5
Arr[] = {15, 2, 45, 12, 7}
Output: 2
Explanation: Only Arr[2] = 2 exists here.
Example 2:
Input:
N = 1
Arr[] = {1}
Output: 1
Explanation: Here Arr[1] = 1 exists.

Q6. Given an array of size **N** and you have to tell whether the array is perfect or not. An array is said to be perfect if it's reverse array matches the original array. If the array is perfect then print "PERFECT" else print "NOT PERFECT".
Example 1:
Input : Arr[] = {1, 2, 3, 2, 1}
Output : PERFECT
Explanation:
Here we can see we have [1, 2, 3, 2, 1]
if we reverse it we can find [1, 2, 3, 2, 1]
which is the same as before.
So, the answer is **PERFECT**.

Example 2:
Input : Arr[] = {1, 2, 3, 4, 5}
Output : NOT PERFECT

Q7. Given an array of length **N**, at each step it is reduced by 1 element. In the first step the maximum element would be removed, while in the second step minimum element of the remaining array would be removed, in the third step again the maximum and so on. Continue this till the array contains only 1 element. And find the final element remaining in the array.

Example 1:
Input:
N = 7
A[] = {7, 8, 3, 4, 2, 9, 5}

Ouput:
5
Explanation:
In first step '9' would be removed, in 2nd step '2' will be removed, in third step '8' will be removed and so on. So the last remaining element would be '5'.

Example 2:
Input:
N = 8
A[] = {8, 1, 2, 9, 4, 3, 7, 5}
Ouput:
4

Q8. Given an array of **N** distinct elements, the task is to find all elements in array except two greatest elements in sorted order.

Example 1:
Input :
a[] = {2, 8, 7, 1, 5}
Output :
1 2 5
Explanation :
The output three elements have two or more greater elements.
Example 2:
Input :
a[] = {7, -2, 3, 4, 9, -1}
Output :
-2 -1 3 4

Q9. Write a program to find the sum of the given series 1+2+3+ . . . . . .(**N** terms)
Example 1:
Input:
N = 1
Output: 1
Explanation: For n = 1, sum will be 1.
Example 2:
Input:
N = 5
Output: 15
Explanation: For n = 5, sum will be 1 + 2 + 3 + 4 + 5 = 15.

Q10. Given a number **N**. Your task is to check whether it is fascinating or not.
Fascinating Number: When a number(should contain 3 digits or more) is multiplied by 2 and 3 ,and when both these products are concatenated with the original number, then it results in all digits from 1 to 9 present exactly once.
Example 1:
Input:
N = 192
Output: Fascinating
Explanation: After multiplication with 2 and 3, and concatenating with original number, number will become 192384576 which contains all digits from 1 to 9.

Example 2:
Input:
N = 853
Output: Not Fascinating
Explanation: It's not a fascinating
number.

Bonus Question
Given an array of even size **N**, task is to find minimum value that can be added to an element so that array become balanced. An array is balanced if the sum of the left half of the array elements is equal to the sum of right half.

Example 1:
Input:
N = 4
arr[] = {1, 5, 3, 2}
Output: 1
Explanation:
Sum of first 2 elements is 1 + 5 = 6,
Sum of last 2 elements is 3 + 2 = 5,
To make the array balanced you can add 1.

Example 2:
Input:
N = 6
arr[] = { 1, 2, 1, 2, 1, 3 }
Output: 2
Explanation:
Sum of first 3 elements is 1 + 2 + 1 = 4,
Sum of last three elements is 2 + 1 + 3 = 6,
To make the array balanced you can add 2.