International Islamic University Chittagong
Department of Computer Science & Engineering
B.Sc. in CSE, Section Splitting Test, Autumn 2021
Course Code: CSE-1230 Course Title: Competitive Programming 1
Time: 90 minutes

1 You are given two integers a and b. Check whether any one of them is a multiple of the another one or not.

Sample Input	Sample output
1 3	YES
7 5	NO
2 10	YES

2 Given an integer N (N >= 2). Print an NxN sized square. Every odd row of this square should contain N hashes and every even row should contain N stars i.e. the first row contains N hashes, 2nd row contains N stars, 3rd row contains N hashes and so on.

Sample Input	Sample output
3	### *** ###
5	##### ***** ##### ***** #####

3 Given an array of N integers. Replace all the zeros of the array with the element with maximum value of the array. Then print the array.

Sample Input	Sample output
5 1 0 4 15 0	1 15 4 15 15
4 0 0 0 1	1 1 1 1

4 Given a string containing lowercase English letters. Check whether the string contains three or more consecutive vowels in it or not.

Sample Input	Sample output

abcd**eio**	YES
Iaaecdee	YES
abcdefabaa	NO

5 You are given a string **S** of length **N** and **Q** queries. In each query you will be given two integers **L** and **R** denoting the position of two characters in the string. For each query you have to count the number of vowels in the string within the range L and R (inclusive).

Constraints:
1 <= N, Q <= 100000
S contains only lowercase English letters.
Time Limit: 1 sec

Sample Input	Sample output
abcdef 4 1 4 1 5 2 4 5 5	1 2 0 1

6. Find unique elements in an array, where the size of the array **N** ($N <= 10^5$) and **i** represents the elements of the array.

Constraints:
$1 <= N <= 10^5$
$1 <= i <= 10^9$
Time Limit: 1 sec

Sample Input	Sample output
9 1 5 3 1 4 6 2 4 2	5 3 6