

balanced_array

An array of length n is said to be balanced if and only if the maximum between length of longest increasing subsequence and length of longest decreasing subsequence does not exceed $\sqrt{n} + 1$

Given n , your task is to construct any balanced array of n pairwise distinct integers where absolute value of each element does not exceed 1000000000

Constraints

$n \leq 2000000$

Sample Input 1

4

Sample Output 1

3 1 4 2