There are 10^9 cards lying on a table, where the i-th card has the value i ($1 \leq i \leq 10^9$) written on it. Alice picked N cards from those and then Bob also picked N cards from the remaining cards. They noticed two interesting properties:

- None of the cards picked by Alice or Bob has any palindromic value written on it

- The sum of values between any one card of Alice and any one card of Bob is always a palindromic number.

Your job is to find one possible selection of cards for both Alice and Bob for $N = 4400$. A number is called palindromic if it spells same both forward and backward.

Input

This problem doesn't have any input.

Output

The first line of output should contain N space separated integers denoting the cards picked by Alice. The second line of output should also contain N space separated integers denoting the cards picked by Bob. You can print any possible solution. The printed numbers must be distinct and have values between 1 and 10^9 (inclusive). And also they should satisfy the two properties mentioned above.

The sample output shows one possible output when $N = 2$. You need to find a solution for $N = 4400$.

Sample Input

Sample Output

27 128
94 104