import java.util.Scanner;

public class Result {

public static void main(String[] args) {

int n;

Scanner s = new Scanner(System.in);

System.out.print(" ");

n = s.nextInt();

int a[] = new int[n];

System.out.println(" ");

int visit = -1;

for(int i = 0; i < n; i++){

int count = 1;

for(int j = i+1; j < n; j++){

if(a[i] == n[j]){

count++;

a[j] = visit;

}

}

if(a[i] != visit)

a[i] = count;

}

for(int i = 0; i < a.length; i++){

if(a[i] != visit)

System.out.println( a[i] + " " + a[i]);

}

}

}