import java.util.Scanner;

import java.util.Collections;

import java.util.Arrays;

class Main{

static int j;

public static int gcd(int a,int b){

while(b!=0){

int temp=b;

b=a%b;

a=temp;

}

return a;

}

public static int findGcd(Integer [] numbers){

int result=numbers[0];

for(int i=1;i<numbers.length;i++){

result=gcd(result,numbers[i]);

if(result==1){

return 1;

}

}

return result;

}

public static void main(String[]args){

Scanner sc=new Scanner(System.in);

System.out.println("enter n:");

int n=sc.nextInt();

Integer [] numbers=new Integer[n];

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

System.out.println("array:"+i+" : ");

j=sc.nextInt();

numbers[i]=j;

}

System.out.println("array");

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

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

}

Arrays.sort(numbers);

System.out.println("array in ascending order");

for(int num:numbers){

System.out.println(num);

}

Arrays.sort(numbers,Collections.reverseOrder());

System.out.println("array in decending order");

for(int number:numbers){

System.out.println(number);

}

int gcd=findGcd(numbers);

System.out.println("gcd :"+gcd);

}

}