//Task 1

import java.util.Scanner;

public class Task\_1 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter a positive integer");

int n = sc.nextInt();

if (n > 0) {

int count = 0;

int prime\_number = 2;

while (count < n) {

int divisor = 1;

int divisor\_count = 0;

while (divisor <= prime\_number) {

if (prime\_number % divisor == 0) {

divisor\_count++;

}

divisor++;

}

if (divisor\_count == 2) {

System.out.println(prime\_number);

count++;

}

prime\_number++;

}

}

else {

System.out.println("Invalid");

}

}

}

//Task 2

import java.util.Scanner;

public class Task\_2 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("The value of N: ");

int n = sc.nextInt();

int y=0;

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

{

int sum = 0;

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

{

sum+=j;

}

y-=sum;

}

System.out.println("The value of y: "+y);

}

}

//Task 3

import java.util.Scanner;

public class Task\_3 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

while (true)

{

System.out.println("Enter Number: ");

int n = sc.nextInt();

int count=0;

if (n % 2 == 0 && n > 0)

{

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

{

if(n%i==0)

{

count++;

}

}

System.out.println(n+" has "+count+" divisors.");

}

else

{break;}

}

}

}

//Task 4

import java.util.Scanner;

public class Task\_4 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter the number of test cases: ");

int N = sc.nextInt();

for (int i = 1; i <= N; i++)

{

int sum=0;

System.out.println("Enter X for Case- "+i);

int x = sc.nextInt();

System.out.println("Enter Y for Case- "+i);

int y = sc.nextInt();

int count=0;

while(count<y)

{

if (x%2!=0)

{

sum+=x;

count++;

}

x++;

}

System.out.println("The sum of Y odd numbers starting from X for case- "+i+" is :"+sum);

}

}

}

//Task 5

import java.util.Scanner;

public class Task\_5 {

public static void main(String[] args)

{

Scanner sc = new Scanner(System.in);

System.out.println("Enter the length");

int l=sc.nextInt();

System.out.println("Enter the width");

int w = sc.nextInt();

for (int i = 1; i <=w ; i++) {

for (int j = 1; j <=l ; j++) {

System.out.print(j+" ");

}

System.out.println();

}

}

}

//Task 6

import java.util.Scanner;

public class Task\_6 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter height");

int h = sc.nextInt();

for (int i = 1; i <=h ; i++)

{

for (int space = 1; space <=(2\*h)-(2\*i) ; space++)

{

System.out.print(" ");

}

for (int number = 1; number <=i ; number++)

{

System.out.print(number+" ");

}

System.out.println();

}

}

}

//Task 7

import java.util.Scanner;

public class Task\_7 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter height");

int h = sc.nextInt();

for (int i = 1; i <= h ; i++)

{

for (int space = 1; space <= 2\*(h-i); space++) {

System.out.print(" ");

}

for (int j = 1; j <= 2\*i-1 ; j++)

{

System.out.print(j+" ");

}

System.out.println();

}

}

}

//Task 8

import java.util.Scanner;

public class Task\_8 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Start: ");

int start = sc.nextInt();

System.out.println("End: ");

int end = sc.nextInt();

System.out.println("Armstrong numbers: ");

while(start<=end)

{ int replica1 = start;

int replica2 = start;

int sum=0;

int count=0;

while(replica1 >0)

{

count++;

replica1 /=10;

}

while(replica2>0)

{

sum+=(int) Math.pow((replica2%10),count);

replica2/=10;

}

if (sum==start)

{

System.out.println(start);

}

start++;

}

}