**Numbers-1**

**Question 1:**

Report

**Marks: +10-0**

**Description:**

Write a program to swap Given two numbers.

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

                     Secod Line of Input Consists of One Integer Value.

Output        :- Print the Two Numbers after Swapping.

**Example:**

Input 1  :    210

                  208

Output 1:    208

                  210

Input 2  :    66

                  144

Output 2:     144

                   66

Input 3  :    58

                  1001

Output 3:    1001

                  58

**Explanation:**

Print the Given Numbers After Swapping Numbers

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int a=sc.nextInt();

int b=sc.nextInt();

a=a+b-(b=a);

System.out.println(a);

System.out.println(b);

}

}

**Question 2:**

Report

**Marks: +10-0**

**Description:**

Write a program to find the Sum of all Alternative Prime Numbers between Given Values.

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value ( Minimum Value ) .

                     Second Line of Input Consists of One Integer Value ( Maximum Value ) .

Output        :- Print Sum of All Alternate Prime Numbers Between the Given Values.

Constraints  :- Given Inputs Must be Greater than Zero or else Print **Invalid Inputs**.

                      If no Primes Numbers are identified in Between the Given Values then Print **No Prime Numbers**.

**Example:**

Input 1  :    25

                  100

Output 1:    462

Input 2  :    -6

                  -200

Output 2:     Invalid Inputs

Input 3  :    19

                  61

Output 3:    201

Input 4  :    90

                  97

Output 4:    No Prime Numbers

**Explanation:**

Input 1  :    25

                  100

Output 1:    462

Explanation :

Prime Numbers : 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97,

Alternative Prime Numbers : 29, 37, 43, 53, 61, 71, 79, 89

Sum of Alternative Prime Numbers : 29 + 37 + 43 + 53 + 61 + 71 + 79 + 89

                                                  = 462

Input 2  :    -6

                  -200

Output 2:     Invalid Inputs

Explanation :

Given Numbers are not a Positive Numbers

Input 3  :    19

                  61

Output 3:

Explanation :

Prime Numbers : 23, 29, 31, 37, 41, 43, 47, 53, 59

Alternative Prime Numbers : 23, 31, 41, 47, 59

Sum of Alternative Prime Numbers : 23 + 31 + 41 + 47 + 59

                                                  = 201

Input 4  :    90

                  97

Output 4:    No Prime Numbers

Explanation :

Prime Numbers : No Prime Numbers between the Given Numbers

Alternative Prime Numbers : No Alternative Prime Numbers between the Given Numbers So Printing **No Prime Numbers**.

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int a=sc.nextInt();

int b=sc.nextInt();

int s=0;

int d=0;

if(a<=0 || b<=0)

{

System.out.println("Invalid Inputs");

}

else{

for(int i=a+1;i<b;i++){

int c=0;

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

{

if(i%j==0)

{

c++;

}

}

if(c==2){

d++;

if(d%2==1){

s=s+i;

}

}

}

if(d==0){

System.out.print("No Prime Numbers");

}

else{

System.out.print(s);

}

}

}

}

**Question 3:**

Report

**Marks: +10-0**

**Description:**

Write a program to find Sum of all prime numbers between the Given values.

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value ( Minimum Value ) .

                     Second Line of Input Consists of One Integer Value ( Maximum Value ) .

Output        :- Print Sum of Prime Numbers Between the Given Values.

Constraints  :- Given Inputs Must be Greater than Zero or else Print **Invalid Inputs**.

**Example:**

Input 1  :    25

                  100

Output 1:    960

Input 2  :    -6

                  -200

Output 2:     Invalid Inputs

Input 3  :    19

                  61

Output 3:    363

**Explanation:**

Input 1  :    25

                  100

Output 1:    960

Explanation:

Prime Numbers :   29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97

sum = 29 + 31 + 37 + 41 + 43 + 47 + 53 + 59 + 61 + 67 + 71 + 73 + 79 + 83 + 89 + 97

       = 960

Input 2  :    -6

                  -200

Output 2:     Invalid Inputs

Explanation:

Given Numbers are not a Positive Numbers

Input 3  :    19

                  61

Output 3:    363

Explanation:

Prime Numbers:  23, 29, 31, 37, 41, 43, 47, 53, 59

sum = 23 + 29 + 31 + 37 + 41 + 43 + 47 + 53 + 59

       =  363

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int a=sc.nextInt();

int b=sc.nextInt();

int sum=0;

if(a>0 && b>0)

{

for(int i=a+1;i<b;i++){

int count=0;

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

if(i%j==0){

count++;

}

}

if(count==2){

sum +=i;

}

}System.out.print(sum);

}

else{

System.out.println("Invalid Inputs");

}

}

}

**Question 4:**

Report

**Marks: +10-0**

**Description:**

Write a program to print all factors of the Given Number.

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

Output        :- Print All the Factors of a Given Number.

Constraints  :- Given Input Must be Greater than Zero or else Print **Invalid Input**.

**Example:**

Input 1  :    18

Output 1:    1 2 3 6 9 18

Input 2  :    -6

Output 2:     Invalid Input

**Explanation:**

18     -->   1 2 3 6 9 18   If u divide 18 with these Numbers(1 2 3 6 9 18) then u can get remiander as 0 in all these scenarios.

-6      -->   Invalid Input  ( Given Number is Not Greater than Zero )

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int a=sc.nextInt();

if(a>0)

{

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

{

if(a%i==0)

{

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

}

}

}

else{

System.out.print("Invalid Input");

}

}

}

**Question 5:**

Report

**Marks: +10-0**

**Description:**

Write a program to print All the Prime Numbers between the Given Range.

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value ( Minimum Value ) .

                     Second Line of Input Consists of One Integer Value ( Maximum Value ) .

Output        :- Print All the Prime Number Between the Given Range.

Constraints  :- Given Inputs Must be Greater than Zero or else Print **Invalid Inputs**.

**Example:**

Input 1  :    25

                  100

Output 1:    29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97

Input 2  :    -6

                  -200

Output 2:     Invalid Inputs

Input 3  :    19

                  61

Output 3:    19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61

**Explanation:**

If the Given Inputs is greater than Zero then Print All the Prime Number between the Given Range.

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int start=sc.nextInt();

int end=sc.nextInt();

boolean first=true;

if(start>0 && end>0)

{

for(int i=start;i<=end;i++)

{

int count=0;

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

{

if(i%j==0)

{

count++;

}

}

if(count==2)

{

if(!first)

{

System.out.print(", ");

}

System.out.print(i);

first=false;

}

}

}else{

System.out.println("Invalid Inputs");

}

}

}

**Question 6:**

Report

**Marks: +10-0**

**Description:**

Write a program to print Alternative Prime Numbers between the Given Range.

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value ( Minimum Value ) .

                     Second Line of Input Consists of One Integer Value ( Maximum Value ) .

Output        :- Print Alternate Prime Numbers Between the Given Range.

Constraints  :- Given Inputs Must be Greater than Zero or else Print **Invalid Inputs**.

**Example:**

Input 1  :    25

                  100

Output 1:    29, 37, 43, 53, 61, 71, 79, 89

Input 2  :    -6

                  -200

Output 2:     Invalid Inputs

Input 3  :    19

                  61

Output 3:    19, 29, 37, 43, 53, 61

**Explanation:**

Input 1  :    25

                  100

Output 1:    29, 37, 43, 53, 61, 71, 79, 89

Explanation :

Prime Numbers : 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97

Alternative Prime Numbers : 29, 37, 43, 53, 61, 71, 79, 89

Input 2  :    -6

                  -200

Output 2:     Invalid Inputs

Explanation :

Given Numbers are not a Positive Numbers

Input 3  :    19

                  61

Output 3:    19, 29, 37, 43, 53, 61

Explanation :

Prime Numbers : 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61

Alternative Prime Numbers : 19, 29, 37, 43, 53, 61

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String []args)

{

Scanner sc=new Scanner(System.in);

int a=sc.nextInt();

int b=sc.nextInt();

int e=0;

int d=0;

if(a<=0 || b<=0){

System.out.print("Invalid Inputs");

}else{

for(int i=a;i<=b;i++){

int c=0;

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

if(i%j==0)

{

c++;

}

}

if(c==2)

{

d++;

if(d%2==1)

{

e++;

if(e==1)

{

System.out.print(i);

}

else{

System.out.print(", "+i);

}

}

}

}

}

}

}

**Question 7:**

Report

**Marks: +10-0**

**Description:**

Write a program to swap the Given two numbers. ( without Using third variable)

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

                     Second Line of Input Consists of One Integer Value.

Output        :- Print the Given 2 Numbers after Swapping.

**Example:**

Input 1  :    210

                  208

Output 1:    208

                  210

Input 2  :    66

                  144

Output 2:     144

                   66

Input 3  :    58

                  1001

Output 3:    1001

                  58

**Explanation:**

Print the Given Two Values After swapping.

**Your Code: java**

import java.util.Scanner;

class Main{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int a=sc.nextInt();

int b=sc.nextInt();

a=a+b-(b=a);

System.out.println(a);

System.out.println(b);

}

}

**Question 8:**

Report

**Marks: +10-0**

**Description:**

Write a program to check given number is prime number or not.

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

Output        :- Print the **Prime Number** or **Not a Prime Number**.

Constraints  :- Given Input Must be Greater than Zero or else Print **Invalid Input**.

**Example:**

Input 1  :    83

Output 1:    Prime Number

Input 2  :    -6

Output 2:     Invalid Input

Input 3  :    182

Output 3:    Not a Prime Number

**Explanation:**

If the Given Input is greater than Zero then check the Given Number is Prime Number or Not a Prime Number.

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int num=sc.nextInt();

int count=0;

if(num>0){

for(int i=2;i<=num;i++)

{

if(num % i==0)

{

count++;

}

}

if(count==1)

{

System.out.println("Prime Number");

}

else{

System.out.print("Not a Prime Number");

}

}

else{

System.out.print("Invalid Input");

}

}

}

**Question 9:**

Report

**Marks: +10-0**

**Description:**

Write a program to find Average of all Alternative Prime Numbers between Given Values.

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value.

                     Second Line of Input Consists of One Integer Value.

Output        :- Print Average of all Alternative Prime Numbers Between the Given Values.

Constraints  :- Given Inputs Must be Greater than Zero or else Print **Invalid Inputs**.

                      If no Primes Numbers are identified in Between the Given Values then Print **No Prime Numbers**.

**Example:**

Input 1  :    25

                  100

Output 1:    57.750

Input 2  :    -23

                  -133

Output 2:     Invalid Inputs

Input 3  :    61

                  19

Output 3:    40.200

Input 4  :    90

                  97

Output 4:    No Prime Numbers

**Explanation:**

Input 1  :    25

                  100

Output 1:    57.750

Explanation :

Prime Numbers : 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97,

Alternative Prime Numbers : 29, 37, 43, 53, 61, 71, 79, 89

Sum of Alternative Prime Numbers : 29 + 37 + 43 + 53 + 61 + 71 + 79 + 89

                                                  = 462

Average of Alternative Prime Numbers : 462 /8

                                                        =57.750

Input 2  :    -23

                  -133

Output 2:     Invalid Inputs

Explanation :

Given Numbers are not a Positive Numbers

Input 3  :    61

                  19

Output 3:    40.200

Explanation :

Prime Numbers : 23, 29, 31, 37, 41, 43, 47, 53, 59

Alternative Prime Numbers : 23, 31, 41, 47, 59

Sum of Alternative Prime Numbers : 23 + 31 + 41 + 47 + 59

                                                  = 201

Average of Alternative Prime Numbers : 201 / 5

                                                        =40.200

Input 4  :    90

                  97

Output 4:    No Prime Numbers

Explanation :

Prime Numbers : No Prime Numbers between the Given Numbers

Alternative Prime Numbers : No Alternative Prime Numbers between the Given Numbers So Printing No Prime Numbers.

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int a=sc.nextInt();

int b=sc.nextInt();

int sum=0,count=0;

int d=0;

if(a>b){

a=a+b-(b=a);

}

if(a>0 && b>0){

int Primecount=0;

for(int i=a+1;i<b;i++)

{

int c=0;

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

if(i%j==0){

c++;

}

}

if(c==2){

Primecount++;

if(Primecount%2!=0){

sum+=i;

d++;

}

count++;

}

}

if(count==0){

System.out.println("No Prime Numbers");

}else{

System.out.printf("%.3f",(float)sum/d);

}

}

else{

System.out.println("Invalid Inputs");

}

}

}

**Question 10:**

Report

**Marks: +10-0**

**Description:**

Write a program to find Average of all Prime Numbers between the Given Values. (Print the value upto 3 digits after Decimal Point)

**Constraints:**

Input          :- First Line of Input Consists of One Integer Value ( Minimum Value ) .

                     Second Line of Input Consists of One Integer Value ( Maximum Value ) .

Output        :- Print All the Prime Number Between the Given Values.

Constraints  :- Given Inputs Must be Greater than Zero or else Print **Invalid Inputs**.

**Example:**

Input 1  :    25

                  100

Output 1:    60

Input 2  :    -10

                  -90

Output 2:     Invalid Inputs

Input 3  :    19

                  61

Output 3:    40.333

**Explanation:**

Input 1  :    25

                  100

Output 1:    960

Explanation:

Prime Numbers :   29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97

sum = 29 + 31 + 37 + 41 + 43 + 47 + 53 + 59 + 61 + 67 + 71 + 73 + 79 + 83 + 89 + 97

       = 960

Average = sum / NO of Primes

             = 960 / 16

             = 60

Input 2  :    -10

                  -90

Output 2:     Invalid Inputs

Explanation:

Given Numbers are not a Positive Numbers

Input 3  :    19

                  61

Output 3:    363

Explanation:

Prime Numbers:  23, 29, 31, 37, 41, 43, 47, 53, 59

sum = 23 + 29 + 31 + 37 + 41 + 43 + 47 + 53 + 59

       =  363

Average = sum / No of Primes

             = 363 / 9

             = 40.333333333

             = 40.333

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String []args)

{

Scanner sc=new Scanner(System.in);

int a=sc.nextInt();

int b=sc.nextInt();

int d=0;

int s=0;

if(a<=0 || b<=0)

{

System.out.print("Invalid Inputs");

}else{

for(int i=a+1;i<b;i++){

int c=0;

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

{

if(i%j==0)

{

c++;

}

}

if(c==2)

{

d++;

s=s+i;

}

}

System.out.printf("%.3f",(float)s/d);

}

}

}