**Numbers-5**

**Question 1:**

Report

**Marks: +10-0**

**Description:**

Write a program to print the Alternative Armstrong Numbers between the Given Values?

**Constraints:**

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

                     Second Line of Input Consists of One Integer Value.

Output        :- Print the All Alternative Armstrong Numbers.

Constraints  :- Either of the Given Inputs is Equal to Zero then Print **"Invalid Inputs"**.

                      If there is No Armstrong Numbers Between the Given Values then print **"No Armstrong Numbers Between Given Values.".**

                      If Either of the Given Inputs is Negative then Convert into Positive and then Print the Alternative Armstrong Numbers.

**Example:**

Input 1  :    1

                  200

Output 1:    Alternative Armstrong Numbers between the Given Values is 2, 4, 6, 8, 153.

Input 2  :   500

                 150

Output 2:  Alternative Armstrong Numbers between the Given Values is 153, 371.

Input 3  :    8208

                  93084

Output 3:    Alternative Armstrong Numbers between the Given Values is 9474, 92727.

**Explanation:**

Input 1  :    1

                  200

Output 1:    Alternative Armstrong Numbers between the Given Values is 2, 4, 6, 8, 153.

Explanation:

Amrstong Numbers between the 1 to 200 is 2, 3, 4, 5, 6, 7, 8, 9, 153.

Alternative Armstrong Numbers between the Given Values is 2, 4, 6, 8, 153.

Input 2  :   500

                 150

Output 2:  Alternative Armstrong Numbers between the Given Values is 153, 371.

Explanation:

Amrstong Numbers between the 150 to 500 is 153, 370, 371, 407.

Alternative Armstrong Numbers between the Given Values is 153, 371.

Input 3  :    8208

                  93084

Output 3:    Alternative Armstrong Numbers between the Given Values is 9474, 92727.

Explanation:

Amrstong Numbers between the 8208 to 93084 is 9474, 54748, 92727.

Alternative Armstrong Numbers between the Given Values is 9474, 92727.

**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 e=0;

if(a<0){

a=-a;

}

if(b<0){

b=-b;

}

if(a>b)

{

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

}

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

{

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

}

else{

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

int t=i;

int c=0;

while(t!=0)

{

t=t/10;

c++;

}

t=i;

int s=0;

while(t!=0)

{

int r=t%10;

s=s+(int)Math.pow(r,c);

t=t/10;

}

if(s==i)

{

d++;

if(d%2==1)

{

e++;

if(e==1)

{

System.out.print("Alternative Armstrong Numbers between the Given Values is "+i);

}

else{

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

}

}

}

}

if(e==0)

{

System.out.print("No Armstrong Numbers Between Given Values. ");

}

else{

System.out.print(".");

}

}

}

}

**Question 2:**

Report

**Marks: +10-0**

**Description:**

Write a program to print the Sum of the Armstrong Numbers in the Given Range?

**Constraints:**

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

                     Second Line of Input Consists of One Integer Value.

Output        :- Print the Sum of All Armstrong Numbers.

Constraints  :- Either ofthe Given Input is Equals to Zero then Print **Invalid Inputs**.

                      If there is No Armstrong Numbers Between the Given Range then print **"No Armstrong Numbers in a Given Range."**.

                      If Either of the Given Inputs is Negative then Convert into Positive and then Print the Sum of all Armstrong Numbers.

**Example:**

Input 1  :    1

                  200

Output 1:    Armstrong Numbers in the Given Range is 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 153 = 198.

Input 2  :   500

                 150

Output 2:  Armstrong Numbers in the Given Range is 153 + 370 + 371 + 407 = 1301.

Input 3  :    8208

                  93084

Output 3:    Armstrong Numbers in the Given Range is 8208 + 9474 + 54748 + 92727 + 93084 = 258241.

**Explanation:**

Input 1  :    1

                  200

Output 1:    Armstrong Numbers in the Given Range is 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 153 = 198.

Explanation:

Amrstong Numbers in the Range of 1 to 200 is 1, 2, 3, 4, 5, 6, 7, 8, 9, 153.

1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 153 = 198.

Input 2  :   500

                 150

Output 2:  Armstrong Numbers in the Given Range is 153 + 370 + 371 + 407 = 1301.

Explanation:

Amrstong Numbers in the Range of 150 to 500 is 153, 370, 371, 407.

153 + 370 + 371 + 407 = 1301.

Input 3  :    8208

                  93084

Output 3:    Armstrong Numbers in the Given Range is 8208 + 9474 + 54748 + 92727 + 93084 = 258241.

Explanation:

Amrstong Numbers in the Range of 8208 to 93084 is 8208, 9474, 54748, 92727, 93084.

8208 + 9474 + 54748 + 92727 + 93084 = 258241.

**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 sum=0;

if(a<0){

a=-a;

}

if(b<0){

b=-b;

}

if(a>b)

{

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

}

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

{

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

}

else{

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

int c=0;

int t=i;

while(t!=0)

{

t=t/10;

c++;

}

t=i;

int s=0;

while(t!=0)

{

int r=t%10;

s=s+(int)Math.pow(r,c);

t=t/10;

}

if(s==i)

{

d++;

if(d==1)

{

System.out.print("Armstrong Numbers in the Given Range is "+i);

}else{

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

}

sum=sum+i;

}

}

if(d==0)

{

System.out.print("No Armstrong Numbers in a Given Range.");

}

else

{

System.out.print(" = "+sum+".");

}

}

}

}

**Question 3:**

Report

**Marks: +10-0**

**Description:**

Write a program to print the Average of the Alternative Armstrong Numbers between the Given Range?

**Constraints:**

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

                     Second Line of Input Consists of One Integer Value.

Output        :- Print the Average of All Alternative Armstrong Numbers.

Constraints  :- Either of the Given Inputs is equal to Zero then Print **"Invalid Inputs."**.

                      If there is No Armstrong Numbers Between the Given Range then print **No Armstrong Numbers in a Given Range**.

                      If Either of the Given Inputs is Negative then Convert into Positive and then Print the Average of all Alternative Armstrong Numbers.

**Example:**

Input 1  :    1

                  200

Output 1:    Average of Alternative Armstrong Numbers in the Given Range is ( 1 + 3 + 5 + 7 + 9 ) / 5 = 5.00

Input 2  :   500

                 150

Output 2:    Average of Alternative Armstrong Numbers in the Given Range is ( 153 + 371 ) / 2 = 262.00

Input 3  :    8208

                  93084

Output 3:    Average of Alternative Armstrong Numbers in the Given Range is ( 8208 + 54748 + 93084 ) / 3 = 52013.33

**Explanation:**

Input 1  :    1

                  200

Output 1:    Average of Alternative Armstrong Numbers in the Given Range is ( 1 + 3 + 5 + 7 + 9 ) / 5 = 5.00

Explanation:

Amrstong Numbers in the Range of 1 to 200 is 1, 2, 3, 4, 5, 6, 7, 8, 9, 153.

Alternative Amrstong Numbers in the Range of 1 to 200 is 1, 3, 5, 7, 9.

Sum of Alternative Amrstong Numbers in the Range of 1 to 200 is 1 + 3 + 5 + 7 + 9 = 25.

Average of Alternative Amrstong Numbers in the Range of 1 to 200 is ( 1 + 3 + 5 + 7 + 9 ) / 5

                                                                                                     = 25 / 5

                                                                                                     = 5.00

Input 2  :   500

                 150

Output 2:    Average of Alternative Armstrong Numbers in the Given Range is ( 153 + 371 ) / 2 = 262.00

Explanation:

Amrstong Numbers in the Range of 150 to 500 is 153, 370, 371, 407.

Alternative Amrstong Numbers in the Range of 150 to 500 is 153, 371.

Sum of Alternative Amrstong Numbers in the Range of 150 to 500 is 153 + 371 = 524.

Average of Alternative Amrstong Numbers in the Range of 150 to 500 is ( 153 + 371 ) / 2

                                                                                                     = 524 /2

                                                                                                     = 262.00

Input 3  :    8208

                  93084

Output 3:    Average of Alternative Armstrong Numbers in the Given Range is ( 8208 + 54748 + 93084 ) / 3 = 52013.33.

Explanation:

Amrstong Numbers in the Range of 8208 to 93084 is 8208, 9474, 54748, 92727, 93084.

Alternative Amrstong Numbers in the Range of 8208 to 93084 is 8208, 54748, 93084.

Sum of Alternative Amrstong Numbers in the Range of 8208 to 93084 is 8208 + 54748 + 93084 = 156040.

Average of Alternative Amrstong Numbers in the Range of 8208 to 93084 is ( 8208 + 54748 + 93084 ) / 3

                                                                                                     = 156040 / 3

                                                                                                     = 52013.33

**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 e=0;

int sum=0;

if(a<0)

{

a=-a;

}

if(b<0)

{

b=-b;

}

if(a>b)

{

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

}

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

{

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

}

else{

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

int c=0;

int t=i;

while(t!=0)

{

t=t/10;

c++;

}

t=i;

int s=0;

while(t!=0)

{

int r=t%10;

s=s+(int)Math.pow(r,c);

t=t/10;

}

if(s==i)

{

d++;

if(d%2==1)

{

e++;

if(e==1){

System.out.print("Average of Alternative Armstrong Numbers in the Given Range is ( "+i);

}

else{

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

}

sum=sum+i;

}

}

}

if(e==0)

{

System.out.print("No Armstrong Numbers in a Given Range");

}

else{

System.out.print(" ) / "+e+" = ");

System.out.printf("%.2f",(float)sum/e);

}

}

}

}

**Question 4:**

Report

**Marks: +10-0**

**Description:**

Write a program to print the All Odd Armstrong Numbers in the Given Range?

**Constraints:**

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

                     Second Line of Input Consists of One Integer Value.

Output        :- Print the All Armstrong Numbers.

Constraints  :- Either of the Given Inputs is Zero then Print **"Invalid Inputs"**.

                      If there is No Armstrong Numbers Between the Given Range then print **"No Odd Armstrong Numbers**.**"**.

                      If Either of the Given Inputs is Negative then Convert into Positive and then Print all Odd Armstrong Numbers.

**Example:**

Input 1  :    1

                  200

Output 1:    Odd Armstrong Numbers in the Given Range is 1, 3, 5, 7, 9 ,153.

Input 2  :   500

                 150

Output 2:    Odd Armstrong Numbers in the Given Range is 153, 371, 407.

Input 3  :    8208

                  93084

Output 3:    Odd Armstrong Numbers in the Given Range is 92727.

**Explanation:**

Input 1  :    1

                  200

Output 1:    Odd Armstrong Numbers in the Given Range is 1, 3, 5, 7, 9, 153.

Explanation:

Amrstong Numbers in the Range of 1 to 200 is 1, 2, 3, 4, 5, 6, 7, 8, 9, 153.

Odd Armstrong Numbers in the Given Range is 1, 3, 5, 7, 9 ,153.

Input 2  :   500

                 150

Output 2:    Odd Armstrong Numbers in the Given Range is 153, 371, 407.

Explanation:

Amrstong Numbers in the Range of 150 to 500 is 153, 370, 371, 407.

Odd Armstrong Numbers in the Given Range is 153, 371, 407.

Input 3  :    8208

                  93084

Output 3:    Odd Armstrong Numbers in the Given Range is 92727.

Explanation:

Amrstong Numbers in the Range of 8208 to 93084 is 8208, 9474, 54748, 92727, 93084.

Odd Armstrong Numbers in the Given Range is 92727.

**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;

if(a<0)

{

a=-a;

}

if(b<0)

{

b=-b;

}

if(a>b){

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

}

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

{

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

}

else{

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

{

int t=i;

int c=0;

while(t!=0)

{

t=t/10;

c++;

}

t=i;

int s=0;

while(t!=0)

{

int r=t%10;

s=s+(int)Math.pow(r,c);

t=t/10;

}

if(s==i)

{

if(i%2!=0)

{

d++;

if(d==1)

{

System.out.print("Odd Armstrong Numbers in the Given Range is "+i);

}

else

{

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

}

}

}

}

if(d==0)

{

System.out.print("No Odd Armstrong Numbers.");

}

else

{

System.out.print(".");

}

}

}

}

**Question 5:**

Report

**Marks: +10-0**

**Description:**

Write a program to print the Armstrong Numbers in the Given Range.

**Constraints:**

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

                     Second Line of Input Consists of One Integer Value.

Output        :- Print the All Armstrong Numbers.

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

                      If there is No Armstrong Numbers Between the Given Range then print **No Armstrong Numbers.**

**Example:**

Input 1  :    1

                  200

Output 1:    Armstrong Numbers in the Given Range is 1, 2, 3, 4, 5, 6, 7, 8, 9, 153.

Input 2  :   500

                 150

Output 2:  Armstrong Numbers in the Given Range is 153, 370, 371, 407.

Input 3  :    8208

                  93084

Output 3:    Armstrong Numbers in the Given Range is 8208, 9474, 54748, 92727, 93084.

**Explanation:**

Input 1  :    1

                  200

Output 1:    Armstrong Numbers in the Given Range is 1, 2, 3, 4, 5, 6, 7, 8, 9, 153.

Explanation:

Amrstong Numbers in the Range of 1 to 200 is 1, 2, 3, 4, 5, 6, 7, 8, 9, 153.

Input 2  :   500

                 150

Output 2:  Armstrong Numbers in the Given Range is 153, 370, 371, 407.

Explanation:

Amrstong Numbers in the Range of 150 to 500 is 153, 370, 371, 407.

Input 3  :    8208

                  93084

Output 3:    Armstrong Numbers in the Given Range is 8208, 9474, 54748, 92727, 93084.

Explanation:

Amrstong Numbers in the Range of 8208 to 93084 is 8208, 9474, 54748, 92727, 93084.

**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;

if(a>b)

{

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

}

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

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

}else{

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

{

int t=i;

int c=0;

while(t!=0)

{

t=t/10;

c++;

}

t=i;

int s=0;

while(t!=0)

{

int r=t%10;

s=s+(int)Math.pow(r,c);

t=t/10;

}

if(s==i)

{

d++;

if(d==1)

{

System.out.print("Armstrong Numbers in the Given Range is "+i);

}

else

{

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

}

}

}

if(d==0)

{

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

}else

{

System.out.print(".");

}

}

}

}

**Question 6:**

Report

**Marks: +10-0**

**Description:**

Write a program to check the Given Number is Armstrong or not?

**Constraints:**

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

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

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

**Example:**

Input 1  :    253

Output 1:    Not a Armstrong Number

Input 2  :   153

Output 2:   Armstrong Number

**Explanation:**

Input 1  :    253

Output 1:    Not a Armstrong Number

Explanation:

253

23  + 53 + 33

=8 + 125 + 27

=160

Here Given Number(253) and Sum of the Cubes of the Digits in Given Number(160) are not same So It is Not a Armstrong Number.

Input 2  :   153

Output 2:   Armstrong Number

Explanation:

153

13 + 53 + 33

=1 + 125 + 27

=153

Here Given Number(153) and Sum of the Cubes of the Digits in Given Number(153) are same So It is a Armstrong Number.

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String []args)

{

Scanner sc=new Scanner(System.in);

int s=0;

int n=sc.nextInt();

int t=n;

int dc=0;

if(n<=0){

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

}

else{

while(n!=0)

{

n=n/10;

dc++;

}

n=t;

while(n!=0)

{

int r=n%10;

int k=(int)Math.pow(r,dc);

s=s+k;

n=n/10;

}

if(s==t)

{

System.out.print("Armstrong Number");

}else{

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

}

}

}

}