**Numbers-2**

**Question 1:**

Report

**Marks: +10-0**

**Description:**

Write a program to print all Prime Factors of a Given Number?

**Constraints:**

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

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

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

                      If no Primes Factors are identified of a Given Number then Print **No Prime Factors**.

                      If the Given Input is Negative then convert that number into Positive and Find Prime Factors.

**Example:**

Input 1  :    18

Output 1:    2 3

Input 2  :    -10

Output 2:     2 5

**Explanation:**

Input 1  :    18

Output 1:    2 3

Explanation:

Factors :   1 2 3 6 9 18

Prime Factors : 2 3

Input 2  :    -10

Output 2:     2 5

Explanation:

Given Number is Negative so Convert that Number into Positive Number and then Find Factors

Factors  : 1 2 5 10

Prime Factors : 2 5

**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){

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

}

else{

int count=0;

for(int i=2;i<=Math.abs(a);i++)

{

if(a%i==0)

{

int divcount=0;

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

{

if(i % j==0)

{

divcount++;

}

}

if(divcount==2){

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

count++;

}

}

}if(count==0){

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

}

}

}

}

**Question 2:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print Sum of the digits in a Given Number?

If your input is 210 then you have to Print 3 as Output.

**Constraints:**

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

Output        :- Print the Sum of Digits.

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

**Example:**

Input 1  :    210

Output 1:    3

Input 2  :    -6

Output 2:     Invalid Input

Input 3  :    648

Output 3:    18

**Explanation:**

210  -->  2 + 1 + 0 = 3

-6    -->   Invalid Input  ( Given Value is Less than Zero )

648  -->  6 + 4 + 8 = 18

**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 sum=0;

if(a<=0){

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

return;

}

while(a>0){

sum+=a%10;

a=a/10;

}

System.out.print(sum);

}

}

**Question 3:**

Report

**Marks: +10-0**

**Description:**

Write a program to Calculate Power of a Number. (Without using Pre Defined Method)

**Constraints:**

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

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

Output        :- Print the Power Value.

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

**Example:**

Input 1  :    2

                  5

Output 1:    2 Power 5 value is 32.

Input 2  :   6

                 3

Output 2:    6 Power 3 value is 216.

**Explanation:**

Input 1  :    2

                  5

Output 1:    2 Power 5 value is 32.

Explanation :

25 = 2 \* 2 \* 2 \* 2 \* 2 = 32

Input 2  :   6

                 3

Output 2:    6 Power 3 value is 216.

Explanation :

63= 6 \* 6 \* 6 = 216

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int base=sc.nextInt();

int exp=sc.nextInt();

if(base<=0 || exp<=0)

{

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

}

else{

int result=1;

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

{

result=result\*base;

}

System.out.print(base+" Power "+exp+" value is "+result+".");

}

}

}

**Question 4:**

Report

**Marks: +10-0**

**Description:**

Write a program to find sum of Factorials upto N Numbers like 0! + 1! + 2! + 3! + 4! + 5! +....upto n!?

**Constraints:**

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

Output        :- Print the Sum of Factorials upto N Numbers.

Constraints  :- Given Inputs Must be Greater than or equal to Zero or else Print **INvalid INput**.

**Example:**

Input 1  :    6

Output 1:    1+1+2+6+24+120+720=874

Input 2  :   5

Output 2:   1+1+2+6+24+120=154

**Explanation:**

Input 1  :    6

Output 1:    874

Explanation :

Factorial = 0! + 1! + 2! + 3! + 4! + 5! + 6!

             = 1 + 1 + 2 + 6 + 24 + 120 + 720

             = 874

Input 2  :   5

Output 2:   120

Explanation :

Factorial = 0! + 1! + 2! + 3! + 4! + 5!

             = 1 + 1 + 2 + 6 + 24 + 120

             = 154

**Your Code: java**

import java.util.Scanner;

class Factnu

{

public static void main(String []args)

{

Scanner sc=new Scanner(System.in);

int a=sc.nextInt();

if(a>=0){

int sum=0;

for(int i=0;i<=a;i++)

{

int fact=1;

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

{

fact\*=j;

}

sum+=fact;

System.out.print(fact);

if(i<a)

{

System.out.print("+");

}else{

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

}

}

}else{

System.out.print("INvalid INput");

}

}

}

**Question 5:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print Sum of all odd Positions in a Given Number?

If the Input is 5432 then print output as 6.

**Constraints:**

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

Output        :- Print the Sum of Digits.

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

**Example:**

Input 1  :    5432

Output 1:    6

Input 2  :    -6896

Output 2:     Invalid Input

Input 3  :    6481

Output 3:    5

**Explanation:**

5432     -->   5  4  3  2

position -->   4  3  2  1

Pic Odd Positions Digits-->2 + 4 = **6**

-6896     -->  Invalid Input

6481      -->   6  4  8  1

position -->    4  3  2  1

Pic Odd Positions Digits-->1 + 4 = **5**

**Your Code: java**

import java.util.Scanner;

class Odd

{

public static void main(String []args)

{

Scanner sc=new Scanner(System.in);

long n=sc.nextInt();

if(n<=0){

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

return;

}

int sum=0;

int p=1;

while(n>0){

int r=(int)(n%10);

if(p%2==1)

sum+=r;

n/=10;

p++;

}

System.out.print(sum);

}

}

**Question 6:**

Report

**Marks: +10-0**

**Description:**

Write a Program to Print Sum of the even digits in a Given Number?

If your input is 212 then you have to Print 4 as Output.

**Constraints:**

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

Output        :- Print the Sum of the Even Digits.

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

**Example:**

Input 1  :    212

Output 1:    4

Input 2  :    -634

Output 2:     Invalid Input

Input 3  :    515

Output 3:    0

**Explanation:**

212  -->  2 + 2 = 4

-634 -->   Invalid Input  ( Given Value is Less than Zero )

515  -->  0

**Your Code: java**

import java.util.Scanner;

class Even

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

if(n<=0){

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

return;

}

int sum=0;

while(n!=0){

int r=n%10;

if(r%2==0)

sum+=r;

n/=10;

}

System.out.println(sum);

}

}

**Question 7:**

Report

**Marks: +10-0**

**Description:**

Write a program to find Factorial of a Given Number?

**Constraints:**

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

Output        :- Print the Factorial of a Given Number.

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

**Example:**

Input 1  :    6

Output 1:    720

Input 2  :   5

Output 2:   120

**Explanation:**

Input 1  :    6

Output 1:    720

Explanation :

Factorial = 6 \* 5 \* 4 \* 3 \* 2 \* 1

             = 720

Input 2  :   5

Output 2:   120

Explanation :

Factorial = 5 \* 4 \* 3 \* 2 \* 1

             = 120

**Your Code: java**

import java.util.Scanner;

class Fact

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

if(n<0)

{

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

}

else{

int fact=1;

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

{

fact\*=i;

}System.out.print(fact);

}

}

}

**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 n=sc.nextInt();

int count=0;

if(n<=0){

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

}else{

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

{

if(n%i==0){

count++;

}

}if(count==2)

{

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

}else{

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

}

}

}

}

**Question 9:**

Report

**Marks: +10-0**

**Description:**

Write a program to Print the Reverse of a Given Number?

**Constraints:**

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

Output        :- Print the Reverse of a Given Number.

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

**Example:**

Input 1  :    1698

Output 1:    8961

Input 2  :   1004

Output 2:   4001

**Explanation:**

Printing the Reverse of Given Number

**Your Code: java**

import java.util.Scanner;

class Main

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

int rev=0;

if(n>0)

{

while(n!=0)

{

rev=rev\*10+n%10;

n=n/10;

}

System.out.print(rev);

}

else{

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

}

}

}

**Question 10:**

Report

**Marks: +10-0**

**Description:**

Write a program to Calculate Power of a Number. (With Pre Defined Method)

**Constraints:**

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

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

Output        :- Print the Power Value.

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

**Example:**

Input 1  :    2

                  5

Output 1:    2 Power 5 value is 32.

Input 2  :   6

                 3

Output 2:    6 Power 3 value is 216.

**Explanation:**

Input 1  :    2

                  5

Output 1:    2 Power 5 value is 32.

Explanation :

25 = 2 \* 2 \* 2 \* 2 \* 2 = 32

Input 2  :   6

                 3

Output 2:    6 Power 3 value is 216.

Explanation :

63= 6 \* 6 \* 6 = 216

**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();

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

int result=(int)Math.pow(a,b);

System.out.println(a+" Power "+b+" value is "+result+".");

}

else{

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

}

}

}