Write a program to identify if the number is Strong number or not

Description

Get a number as input from user and then check whether that number is a strong number or not.

A number is said to be strong number if the sum of the factorial of each digit in the number is same as that of the number.

E.g. let the number be 145

Here 1! + 4! + 5! is 1 + 24 + 120 which is equal to 145 itself.

Input

121

Output

Not a strong number

Input

2

Output

Strong number

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C Program

Method 1

```
#include <stdio.h>
int main()
{
   int num,rem,fact=1,sum=0;
   printf("Enter a number: ");
   scanf("%d",&num);
   int copy=num;
  if(num==0)
  sum=sum+fact;
```

```
  else
{
   while(copy!=0)
   {
      rem=copy%10;
      fact=1;
      for(int i=1;i<=rem;i++)
      {
         fact=fact*i;
      }
      sum=sum+fact;
      copy=copy/10;
   }}
   if(sum==num)
   printf("Strong number");
   else
   printf("Not a strong number");
   return 0;
}
```

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Method 2

```
#include <stdio.h>
int factorial(int n)
{
   if(n!=0)
   return n * factorial(n-1);
   else
   return 1;
}
```

```
int main()
{
   int num,rem,fact=1,sum=0;
   printf("Enter a number: ");
   scanf("%d",&num);
   int copy=num;
   if(num==0)
   sum=sum+fact;
   else
   {
   while(copy!=0)
   {
      rem=copy%10;
      fact=factorial(rem);
      sum=sum+fact;
      copy=copy/10;
   }}
   if(sum==num)
   printf("Strong number");
   else
   printf("Not a strong number");
   return 0;
}
```

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C++ Program

Method 1

```
#include <iostream>
using namespace std;
int main()
```

```
{
   int num,rem,fact,sum=0;
   cout<<"Enter a number: ";
   cin>>num;
   int copy=num;
  if(num==0)
   sum=sum+fact;
   else
   {
   while(copy!=0)
   {
      rem=copy%10;
      fact=factorial(rem);
      sum=sum+fact;
      copy=copy/10;
   }}
   if(sum==num)
   cout<<"Strong number";
   else
   cout<<"Not a strong number";
   return 0;
}
```

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Method 2

```
#include <iostream>
using namespace std;
int factorial(int n)
{
   if(n!=0)
```

```
    return n * factorial(n-1);
    else
    return 1;
}
int main()
{
    int num,rem,fact=1,sum=0;
    cout<<"Enter a number: ";
    cin>>num;
    int copy=num;
    if(num==0)
    sum=sum+fact;
    else
    {
    while(copy!=0)
    {
        rem=copy%10;
        fact=factorial(rem);
        sum=sum+fact;
        copy=copy/10;
    }}
    if(sum==num)
    cout<<"Strong number";
    else
    cout<<"Not a strong number";
    return 0;
}
```

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Java

```
import java.util.Scanner;
public class Main
{
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.print("Enter a number: ");
		int num=sc.nextInt();
		int fact=1,sum=0;
		int copy=num;
		if(num==0)
		sum=sum+fact;
		else{
		while(copy!=0)
		{
			fact=1;
			int rem=copy%10;
			for(int i=1;i<=rem;i++)
			fact=fact*i;
			sum=sum+fact;
			copy=copy/10;
		}}
		if(sum==num)
			System.out.println("Strong Number");
		else
			System.out.println("Not a Strong Number");
	}
}
```

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Python

Method 1

```
num=int(input("Enter a number: "))
fact=1
Sum=0
copy=num
if(num==0):
   Sum=Sum+fact
else:
   while(copy!=0):
      fact=1
      rem=copy%10
      for i in range(1,rem+1):
       fact=fact*i
      Sum=Sum+fact
      copy=copy//10
if(Sum==num):
   print("Strong number")
else:
   print("Not a strong number")
```

Method 2

```
import math
num=int(input("Enter a number: "))
Sum=0
fact=1
copy=num
if(num==0):
   Sum=Sum+fact
```

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```
else:
    while(copy!=0):
        rem=copy%10
        fact=math.factorial(rem)
        Sum=Sum+fact
        copy=copy//10
if(Sum==num):
    print("Strong number")
else:
    print("Not a strong number")
```


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