Programming Assignment 4

1. Write a Python Program to Find the Factorial of a Number?
2. Write a Python Program to Display the multiplication Table?
3. Write a Python Program to Print the Fibonacci sequence?
4. Write a Python Program to Check Armstrong Number?
5. Write a Python Program to Find Armstrong Number in an Interval?
6. Write a Python Program to Find the Sum of Natural Numbers?

In [1]:
```
#1.     Write a Python Program to Find the Factorial of a Number?

a=int(input('Enter a Integer'))
fact=1
for i in range(1,a+1):
    fact *=i

print('Factorial of {} is {}'.format(a,fact))
```

```
Enter a Integer9
Factorial of 9 is 362880
```

In [2]:
```
#2.     Write a Python Program to Display the multiplication Table?
```

In [3]:
```
#3.     Write a Python Program to Print the Fibonacci sequence?
a=int(input('Enter a Integer'))
series=[]
n1,n2=0,1
series=[]
for i in range(a):
    print(n1)
    nest=n1+n2
    n1=n2
    n2=nest
```

```
Enter a Integer56
0
1
1
2
3
5
8
13
21
34
55
89
144
233
377
610
987
1597
2584
4181
6765
10946
17711
28657
```

```
46368
75025
121393
196418
317811
514229
832040
1346269
2178309
3524578
5702887
9227465
14930352
24157817
39088169
63245986
102334155
165580141
267914296
433494437
701408733
1134903170
1836311903
2971215073
4807526976
7778742049
12586269025
20365011074
32951280099
53316291173
86267571272
139583862445
```

In [4]:

```
#4.     Write a Python Program to Check Armstrong Number?

def checkarm(num):
    total=0
    num1=str(num)
    n=len(num1)
    for i in num1:
        total+=int(i)**n
    if total == num:
        print(num, 'is a Armstrong Number')




num=int(input('Enter a number to check if it is Armstrong: '))
checkarm(num)
```

```
Enter a number to check if it is Armstrong: 153
153 is a Armstrong Number
```

In [5]:

```
#5.     Write a Python Program to Find Armstrong Number in an Interval?
num=int(input('Enter a number range for checking Armstrong numbers in that interval
for i in range(num):
    checkarm(i)
```

```
Enter a number range for checking Armstrong numbers in that interval : 100000
0 is a Armstrong Number
1 is a Armstrong Number
2 is a Armstrong Number
3 is a Armstrong Number
4 is a Armstrong Number
5 is a Armstrong Number
6 is a Armstrong Number
7 is a Armstrong Number
8 is a Armstrong Number
```

```
9 is a Armstrong Number
153 is a Armstrong Number
370 is a Armstrong Number
371 is a Armstrong Number
407 is a Armstrong Number
1634 is a Armstrong Number
8208 is a Armstrong Number
9474 is a Armstrong Number
54748 is a Armstrong Number
92727 is a Armstrong Number
93084 is a Armstrong Number
```

In [6]:
```python
#6.     Write a Python Program to Find the Sum of Natural Numbers?
import numpy as np
num = np.abs(int(input('input  a number for giving the sum: ')))
sum=0
for i in range(num):
    sum +=i
print('Sum is: ', sum)
```

```
input  a number for giving the sum: 56
Sum is:  1540
```

In [ ]:
```python

```