Programming Assignment_4

1. Write a Python Program to Find the Factorial of a Number?

In [1]:

```python
def factorial(n):

    # single line to find factorial
    return 1 if (n==1 or n==0) else n * factorial(n - 1);

# Driver Code
num = 5;
print("Factorial of",num,"is",
factorial(num))
```

Factorial of 5 is 120

2. Write a Python Program to Display the multiplication Table?

In [2]:

```python
# To take input from the user
num = int(input("Display multiplication table of? "))

# Iterate 10 times from i = 1 to 10
for i in range(1, 11):
    print(num, 'x', i, '=', num*i)
```

Display multiplication table of? 21
21 x 1 = 21
21 x 2 = 42
21 x 3 = 63
21 x 4 = 84
21 x 5 = 105
21 x 6 = 126
21 x 7 = 147
21 x 8 = 168
21 x 9 = 189
21 x 10 = 210

3. Write a Python Program to Print the Fibonacci sequence?

In [3]:

```python
def fib(n):
    a = 0
    b = 1
    if n == 1:
        print(a)
    else:
        print(a)
        print(b)
        for i in range(2,n):
            c = a + b
            a = b
            b = c
            print(c)
fib(10)
```

```
0
1
1
2
3
5
8
13
21
34
```

4. Write a Python Program to Check Armstrong Number?

In [4]:

```python
def Armstrong(n,o):
    sum = 0
    temp = n
    while temp > 0:
        digit = temp % 10
        sum += digit ** o
        temp = temp//10
    if n == sum:
        print(n,"is an Armstrong number")
    else:
        print(n,"is not an Armstrong number")

num = int(input("Enter Number: "))
order = len(str(num))
Armstrong(num,order)
```

```
Enter Number: 12
12 is not an Armstrong number
```

5. Write a Python Program to Find Armstrong Number in an Interval?

In [5]:

```python
lower = 1
upper = 2000

for num in range(lower, upper + 1):

    # order of number
    order = len(str(num))

    # initialize sum
    sum = 0

    temp = num
    while temp > 0:
        digit = temp % 10
        sum += digit ** order
        temp //= 10

    if num == sum:
        print(num)
```

```
1
2
3
4
5
6
7
8
9
153
370
371
407
1634
```

6. Write a Python Program to Find the Sum of Natural Numbers?

In [6]:

```python
number = int(input("Please Enter any Number: "))

total = 0
value = 1

while (value <= number):
    total = total + value
    value = value + 1

print("The Sum of Natural Numbers from 1 to {0} =  {1}".format(number, total))
```

```
Please Enter any Number: 12
The Sum of Natural Numbers from 1 to 12 =  78
```

In [ ]:

```python

```