- Write a Python Program to Find the Factorial of a Number?

In [2]:
```python
def factorial(num):
    if num < 0:
        return "Factorial is not defined for negative numbers"
    elif num == 0 or num == 1:
        return 1
    else:
        fact = 1
        for i in range(2, num + 1):
            fact *= i
        return fact

# Taking user input for a number
number = int(input("Enter a number to find its factorial: "))

# Calculating the factorial using the function
result = factorial(number)
print(f"The factorial of {number} is: {result}")

```

```
Enter a number to find its factorial: 5
The factorial of 5 is: 120
```

- Write a Python Program to Display the multiplication Table?

In [3]:
```python
def multiplication_table(num):
    print(f"Multiplication Table for {num}:")
    for i in range(1, 11):
        print(f"{num} x {i} = {num * i}")

# Taking user input for a number
number = int(input("Enter a number to display its multiplication table: "))

# Displaying the multiplication table using the function
multiplication_table(number)
```

```
Enter a number to display its multiplication table: 5
Multiplication Table for 5:
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
```

- Write a Python Program to Print the Fibonacci sequence?

In [4]:

```python
def fibonacci_sequence(n):
    fib_seq = []
    if n <= 0:
        return "Please enter a positive integer greater than zero."
    elif n == 1:
        fib_seq = [0]
    elif n == 2:
        fib_seq = [0, 1]
    else:
        fib_seq = [0, 1]
        for i in range(2, n):
            fib_seq.append(fib_seq[i - 1] + fib_seq[i - 2])
    return fib_seq

# Taking user input for the number of terms
terms = int(input("Enter the number of terms in the Fibonacci sequence: "))

# Generating and printing the Fibonacci sequence using the function
result = fibonacci_sequence(terms)
print(f"The Fibonacci sequence up to {terms} terms is: {result}")
```

```
Enter the number of terms in the Fibonacci sequence: 5
The Fibonacci sequence up to 5 terms is: [0, 1, 1, 2, 3]
```

- Write a Python Program to Check Armstrong Number?

In [6]:

```python
def check_armstrong(num):
    num_str = str(num)
    num_digits = len(num_str)
    sum_of_digits = 0

    for digit in num_str:
        sum_of_digits += int(digit) ** num_digits

    if sum_of_digits == num:
        return True
    else:
        return False

# Taking user input for a number
number = int(input("Enter a number to check if it's an Armstrong number: "))

# Checking if the number is an Armstrong number using the function
is_armstrong = check_armstrong(number)

if is_armstrong:
    print(f"The number {number} is an Armstrong number.")
else:
    print(f"The number {number} is not an Armstrong number.")

```

```
Enter a number to check if it's an Armstrong number: 86
The number 86 is not an Armstrong number.
```

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

In [7]:

```python
def check_armstrong(num):
    num_str = str(num)
    num_digits = len(num_str)
    sum_of_digits = 0

    for digit in num_str:
        sum_of_digits += int(digit) ** num_digits

    if sum_of_digits == num:
        return True
    else:
        return False

# Taking user input for the interval
lower_limit = int(input("Enter the lower limit of the interval: "))
upper_limit = int(input("Enter the upper limit of the interval: "))

print(f"Armstrong numbers between {lower_limit} and {upper_limit}:")
for number in range(lower_limit, upper_limit + 1):
    if check_armstrong(number):
        print(number)

```

```
Enter the lower limit of the interval: 5
Enter the upper limit of the interval: 9
Armstrong numbers between 5 and 9:
5
6
7
8
9
```

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

In [8]:

```python
def sum_of_natural_numbers(n):
    if n < 0:
        return "Please enter a positive integer."
    else:
        sum = 0
        for i in range(1, n + 1):
            sum += i
        return sum

# Taking user input for a number
number = int(input("Enter a number to find the sum of natural numbers up to it: "

# Calculating the sum of natural numbers using the function
result = sum_of_natural_numbers(number)
print(f"The sum of natural numbers up to {number} is: {result}")

```

```
Enter a number to find the sum of natural numbers up to it: 56
The sum of natural numbers up to 56 is: 1596
```

In [ ]:

```python

```