**Write a Python Program to Find the Factorial of a Number**

python

Copy code

# Function to find the factorial of a number

def factorial(n):

if n == 0:

return 1

else:

return n \* factorial(n - 1)

# Input number

number = int(input("Enter a number: "))

# Calculate and print the factorial

result = factorial(number)

print(f"The factorial of {number} is {result}.")

**2. Write a Python Program to Display the Multiplication Table**

python

Copy code

# Function to display the multiplication table of a number

def multiplication\_table(num):

for i in range(1, 11):

print(f"{num} x {i} = {num \* i}")

# Input number

number = int(input("Enter a number for the multiplication table: "))

# Display the multiplication table

multiplication\_table(number)

**3. Write a Python Program to Print the Fibonacci Sequence**

python

Copy code

# Function to print the Fibonacci sequence up to n terms

def fibonacci(n):

a, b = 0, 1

sequence = []

while a < n:

sequence.append(a)

a, b = b, a + b

return sequence

# Input number of terms

num\_terms = int(input("Enter the number of terms in the Fibonacci sequence: "))

# Print the Fibonacci sequence

sequence = fibonacci(num\_terms)

print("Fibonacci sequence:")

print(sequence)

**4. Write a Python Program to Check Armstrong Number**

python

Copy code

# Function to check if a number is an Armstrong number

def is\_armstrong(num):

digits = [int(d) for d in str(num)]

power = len(digits)

return num == sum(d \*\* power for d in digits)

# Input number

number = int(input("Enter a number: "))

# Check and print result

if is\_armstrong(number):

print(f"{number} is an Armstrong number.")

else:

print(f"{number} is not an Armstrong number.")

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

python

Copy code

# Function to check if a number is an Armstrong number

def is\_armstrong(num):

digits = [int(d) for d in str(num)]

power = len(digits)

return num == sum(d \*\* power for d in digits)

# Function to find Armstrong numbers in a given interval

def armstrong\_numbers\_in\_interval(start, end):

armstrong\_numbers = []

for num in range(start, end + 1):

if is\_armstrong(num):

armstrong\_numbers.append(num)

return armstrong\_numbers

# Input interval

start = int(input("Enter the start of the interval: "))

end = int(input("Enter the end of the interval: "))

# Find and print Armstrong numbers in the interval

armstrong\_numbers = armstrong\_numbers\_in\_interval(start, end)

print(f"Armstrong numbers between {start} and {end} are: {armstrong\_numbers}")

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

python

Copy code

# Function to find the sum of the first n natural numbers

def sum\_of\_natural\_numbers(n):

return n \* (n + 1) // 2

# Input number

number = int(input("Enter a number: "))

# Calculate and print the sum

sum\_total = sum\_of\_natural\_numbers(number)

print(f"The sum of the first {number} natural numbers is {sum\_total}.")