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

# Input a number

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

# Initialize factorial to 1

factorial = 1

# Check if the number is negative, zero, or positive

if num < 0:

print("Factorial is not defined for negative numbers.")

elif num == 0:

print("Factorial of 0 is 1")

else:

# Calculate factorial

for i in range(1, num + 1):

factorial \*= i

print(f"Factorial of {num} is {factorial}")

1. **Write a Python Program to Display the multiplication Table?**

# Input a number for which you want the multiplication table

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

# Display the multiplication table

print(f"Multiplication table for {num}:")

for i in range(1, 11):

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

1. **Write a Python Program to Print the Fibonacci sequence?**

# Input the number of terms in the Fibonacci sequence

terms = int(input("Enter the number of Fibonacci terms to generate: "))

# Initialize the first two terms

a, b = 0, 1

# Check if the number of terms is valid

if terms <= 0:

print("Please enter a positive integer.")

elif terms == 1:

print("Fibonacci sequence:")

print(a)

else:

print("Fibonacci sequence:")

print(a, b, end=" ")

for i in range(2, terms):

next\_term = a + b

print(next\_term, end=" ")

a, b = b, next\_term

1. **Write a Python Program to Check Armstrong Number?**

# Input a number

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

# Calculate the sum of cubes of individual digits

temp = num

sum = 0

while temp > 0:

digit = temp % 10

sum += digit\*\*3

temp //= 10

# Check if it's an Armstrong number

if num == sum:

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

else:

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

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

# Input the interval

lower = int(input("Enter the lower bound of the interval: "))

upper = int(input("Enter the upper bound of the interval: "))

# Check Armstrong numbers in the interval

print(f"Armstrong numbers in the interval [{lower}, {upper}]:")

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

temp = num

sum = 0

while temp > 0:

digit = temp % 10

sum += digit\*\*3

temp //= 10

if num == sum:

print(num)

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

# Input a positive integer

num = int(input("Enter a positive integer: "))

# Check if the input is valid

if num <= 0:

print("Please enter a positive integer.")

else:

# Calculate the sum of natural numbers up to num

sum = (num \* (num + 1)) // 2

print(f"The sum of natural numbers up to {num} is {sum}")