**ANSWERS**

**Q1. Write a Python Program to Find the Factorial of a Number?**

**Ans.** Please find below the code to find the factorial of a number:

def factorial(n):

if n == 0 or n == 1:

return 1

else:

return n \* factorial(n - 1)

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

result = factorial(number)

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

**Q2. Write a Python Program to Display the multiplication Table?**

**Ans.** Please find below the code to display the multiplication table:

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

print(f"Multiplication table of {number}:")

for i in range(1, 11):

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

**Q3. Write a Python Program to Print the Fibonacci sequence?**

**Ans.** Please find below the code to print the Fibonacci sequence:

def fibonacci\_sequence(n):

fib\_sequence = [0, 1]

for i in range(2, n):

next\_fib = fib\_sequence[i-1] + fib\_sequence[i-2]

fib\_sequence.append(next\_fib)

return fib\_sequence

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

sequence = fibonacci\_sequence(num\_terms)

print("Fibonacci sequence:", sequence)

**Q4. Write a Python Program to Check Armstrong Number?**

**Ans.** Please find below the code to check Armstrong number:

def is\_armstrong(number):

num\_str = str(number)

num\_digits = len(num\_str)

armstrong\_sum = sum(int(digit) \*\* num\_digits for digit in num\_str)

return armstrong\_sum == number

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

if is\_armstrong(number):

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

else:

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

**Q5. Write a Python Program to Find Armstrong Number in an Interval?**

**Ans.** Please find below the code to find Armstrong number in an interval:

def is\_armstrong(number):

num\_str = str(number)

num\_digits = len(num\_str)

armstrong\_sum = sum(int(digit) \*\* num\_digits for digit in num\_str)

return armstrong\_sum == number

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

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

print(f"Armstrong numbers between {lower} and {upper}:")

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

if is\_armstrong(num):

print(num, end=", ")

**Q6. Write a Python Program to Find the Sum of Natural Numbers?**

**Ans.** Please find below the code to find the sum of natural numbers:

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

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

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

result = sum\_of\_natural\_numbers(n)

print(f"The sum of the first {n} natural numbers is {result}")