1. Write a Python Program to Find the Factorial of a Number?
2. Write a Python Program to Display the multiplication Table?
3. Write a Python Program to Print the Fibonacci sequence?
4. Write a Python Program to Check Armstrong Number?
5. Write a Python Program to Find Armstrong Number in an Interval?
6. Write a Python Program to Find the Sum of Natural Numbers?

from copy import copy  
  
  
class programming\_Assignment4():  
 *"""Function to Find the Factorial of a Number"""* def findFactorial(self):  
 retry\_count = 0  
 while True:  
 num = int(input("Enter a number greater than 0 to find its Factorial:\n"))  
 if num < 1:  
 print("Entered invalid input!! Please retry!!")  
 retry\_count = retry\_count + 1  
 if retry\_count < 3:  
 continue  
 else:  
 print("Maximum retry reached!!! Terminating now...!!!")  
 break  
 else:  
 fact = 1  
 for i in range(1, num + 1):  
 fact = fact \* i  
 print(f"Factorial of the number {num} is {fact}")  
 break  
  
 """Function to Display the multiplication Table"""  
  
 def multiplicationTable(self):  
 n = int(input("Enter a number to show its multiplication table\n"))  
 x, y = map(int, input("Enter the lower limit and upper limit for the multiplication table separated by space:\n").strip().split())  
 print(f"\nMultiplication table for the number {n} between ({x},{y}) is\n")  
 for i in range(x, y + 1):  
 print(f"{n} \* {i} = {n \* i}")  
  
 """Funtion to Print the Fibonacci sequence"""  
  
 def printFibonacci(self, num):  
 a = 0  
 b = 1  
 fib\_list = []  
 for i in range(0, num):  
 fib\_list.append(a)  
 c = a + b  
 a = b  
 b = c  
 print(f"Fibonacci series upto {num} are:\n", fib\_list)  
  
 """Function to check the Armstrong sequence"""  
  
 def checkArmstrong(self):  
 num = int(input("Enter a number to check if it armstrong:\n"))  
 x = copy(num)  
 sum1 = 0  
 while x > 0:  
 rem = x % 10  
 sum1 = sum1 + (rem \*\* 3)  
 x = int(x / 10)  
 if num == sum1:  
 print(f"Entered number {num} is armstrong number")  
 else:  
 print(f"Entered number {num} is not armstrong number")  
  
 """Function to print Armstrong number between a range"""  
  
 def printArmstrong(self):  
 llimit, ulimit = map(int,  
 input("Enter lower limit and upper limit to print the armstrong numbers in between:\n")  
 .strip().split())  
 armStrongList = []  
 for i in range(llimit, ulimit + 1):  
 tmp = i  
 sm = 0  
 while i > 0:  
 rem = i % 10  
 sm = sm + (rem \*\* 3)  
 i = int(i / 10)  
 if tmp == sm:  
 armStrongList.append(tmp)  
 print(f"Armstrong numbers between range ({llimit},{ulimit}) are:\n {armStrongList}")  
  
 """Function to find sum of natural numbers"""  
 def sumNaturalNum(self):  
 sm = 0  
 for i in range(1,11):  
 sm += i  
 print(f"Sum of natural numbers in range({1},{10}) is: {sm}")  
  
  
obj = programming\_Assignment4()  
  
obj.findFactorial()  
obj.multiplicationTable()  
obj.printFibonacci(10)  
obj.checkArmstrong()  
obj.printArmstrong()  
obj.sumNaturalNum()