

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

Soln:

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

factorial = 1
for i in range(1, num+1):
    factorial *= i

print("The factorial of", num, "is", factorial)
```

2. Write a Python Program to Display the multiplication Table

Soln:

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

for i in range(1, 11):
    print(num, "x", i, "=", num*i)
```

3. Write a Python Program to Print the Fibonacci sequence

Soln:

```
terms = int(input("Enter the number of terms: "))

a, b = 0, 1

for i in range(terms):
    print(a, end=" ")
    a, b = b, a+b
```

4. Write a Python Program to Check Armstrong Number

Soln:

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

sum = 0
num_digits = len(str(num))
```

```
temp = num
while temp > 0:
    digit = temp % 10
    sum += digit ** num_digits
    temp //= 10

if num == sum:
    print(num, "is an Armstrong number")
else:
    print(num, "is not an Armstrong number")
```

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

Soln:

```
lower = int(input("Enter lower bound: "))
upper = int(input("Enter upper bound: "))

for num in range(lower, upper+1):
    # initialize sum and number of digits
    sum = 0
    num_digits = len(str(num))

    # calculating sum of the cubes of each digit
    temp = num
    while temp > 0:
        digit = temp % 10
        sum += digit ** num_digits
        temp //= 10

    # checking if the number is an Armstrong number
    if num == sum:
        print(num)
```

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

Soln:

```
n = int(input("Enter a positive integer: "))
sum = 0
for i in range(1, n+1):
    sum += i
```

```
print("The sum of the first", n, "natural numbers is", sum)
```