

Python Programming Assignment 4

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

```
def factorial(n):  
  
    # single line to find factorial  
    return 1 if (n==1 or n==0) else n * factorial(n - 1);  
  
num = 5;  
print("Factorial of",num,"is",  
factorial(num))
```

2. Write a Python Program to Display the multiplication Table?

```
num = int(input("Display multiplication table of? "))  
  
# Iterate 10 times from i = 1 to 10  
for i in range(1, 11):  
    print(num, 'x', i, '=', num*i)
```

3. Write a Python Program to Print the Fibonacci sequence?

```
nterms = int(input("How many terms? "))  
  
n1, n2 = 0, 1  
count = 0  
  
# check if the number of terms is valid  
if nterms <= 0:  
    print("Please enter a positive integer")  
  
# if there is only one term, return n1  
elif nterms == 1:  
    print("Fibonacci sequence upto",nterms,":")  
    print(n1)  
  
# generate fibonacci sequence  
else:  
    print("Fibonacci sequence:")  
    while count < nterms:  
        print(n1)
```

```
nth = n1 + n2

# update values

n1 = n2

n2 = nth

count += 1
```

4. Write a Python Program to Check Armstrong Number?

```
num = int(input("Enter a number: "))
sum = 0
temp = num

while temp > 0:
    digit = temp % 10
    sum += digit ** 3
    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?

```
# take input from the user
lower = int(input("Enter lower range: "))
upper = int(input("Enter upper range: "))

for num in range(lower,upper + 1):
    # initialize sum
    sum = 0

    # find the sum of the cube of each digit
    temp = num
    while temp > 0:
        digit = temp % 10
        sum += digit ** 3
        temp //= 10

    if num == sum:
        print(num)
```

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

```
num = 16

if num < 0:
```

```
    print("Enter a positive number")
else:
    sum = 0
    # use while loop to iterate until zero
    while(num > 0):
        sum += num
        num -= 1
    print("The sum is", sum)
```