

Programming Assignment_4

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

```
In [1]: 1 factorial=1
        2 Number=int(input("Enter the number "))
        3 if Number<0:
        4     print("Sorry! the factorial do not exists for the entered number.")
        5 elif Number==0:
        6     ("The factorool of 0 is 1.")
        7 else:
        8     for i in range(1,Number+1):
        9         factorial=factorial *i #Printt the factorial by every element in ran
       10     print("The factorial of number ",Number,"is",factorial)
```

Enter the number 3
The factorial of number 3 is 6

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

```
In [12]: 1 num= int(input("Enter the number"))
        2 for i in range(1,num+1):
        3     mul=num*i
        4     print(num, "x" ,i , "=", mul)
```

Enter the number4
4 x 1 = 4
4 x 2 = 8
4 x 3 = 12
4 x 4 = 16

Type *Markdown* and LaTeX: α^2

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

```
In [16]: 1 # Fibonacci series
2
3 term = int(input("How many terms? "))
4
5 # for the initial 2 terms
6 a, b = 0, 1
7 count = 0
8
9 # if the number of terms is valid
10 if term <= 0:
11     print(" Enter a positive integer")
12 # if there is one term, return b
13 elif term == 1:
14     print("Fibonacci sequence upto",nterms,":")
15     print(a)
16 # generate fibonacci series
17 else:
18     print("Fibonacci sequence:")
19     while count < term:
20         print(a)
21         nth = a + b
22         # update values
23         a = b
24         b = nth
25         count += 1
26
```

```
How many terms? 5
Fibonacci sequence:
0
1
1
2
3
```

4. Write a Python Program to Check Armstrong Number?

```
In [1]: 1 # Python program to check the number is an Armstrong number or not
2 # input
3 number=int(input("Enter a number: "))
4 # sum
5 sum = 0
6 # sum of the cube of each digit
7 temp = number
8 while temp > 0:
9     digit = temp % 10
10    sum += digit ** 3
11    temp //= 10
12 # result
13 if number == sum:
14     print(number,"is an Armstrong number")
15 else:
16     print(number,"is not an Armstrong number")
```

Enter a number: 3
3 is not an Armstrong number

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

```
In [16]: 1 for num in range(100,1000):
2     temp=num
3     sum=0
4     while temp>0:
5         digit=temp%10
6         sum=sum+digit**3
7         temp=temp//10
8         if sum==num:
9             print (num)
```

125
153
216
370
371
407
729

Type Markdown and LaTeX: α^2

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

In [33]:

```
1 number=int(input("Enter a number: "))
2 if number<0:
3     print("Entered number is not valid.Please enter a +ve number")
4 if number==0:
5     print("Entered number is not valid.Please enter a +ve number")
6 if number>0:
7     sum1=0
8     for i in range(1,number+1):
9         sum1=sum1+i
10    print("The sum of natural numbers is",sum1)
```

Enter a number: 3

The sum of natural numbers is 6