

Programming Assignment-6

1. Write a Python Program to Display Fibonacci Sequence Using Recursion?

Python program to display the Fibonacci sequence

```
def recur_fibo(n):
    if n <= 1:
        return n
    else:
        return(recur_fibo(n-1) + recur_fibo(n-2))

nterms = 10

# check if the number of terms is valid
if nterms <= 0:
    print("Plese enter a positive integer")
else:
    print("Fibonacci sequence:")
    for i in range(nterms):
        print(recur_fibo(i))
```

2. Write a Python Program to Find Factorial of Number Using Recursion?

```
def recur_factorial(n):
    if n == 1:
        return n
    else:
        return n*recur_factorial(n-1)

# take input from the user
num = int(input("Enter a number: "))
# check is the number is negative
if num < 0:
    print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
    print("The factorial of 0 is 1")
else:
    print("The factorial of",num,"is",recur_factorial(num))
```

3. Write a Python Program to calculate your Body Mass Index?

```
height = float(input("Input your height in Feet: "))
weight = float(input("Input your weight in Kilogram: "))
print("Your body mass index is: ", round(weight / (height * height), 2))
```

4. Write a Python Program to calculate the natural logarithm of any number?

```
import math
```

```
print ("Natural logarithm of 14 is : ", end="")  
print (math.log(14))  
print ("Logarithm base 5 of 14 is : ", end="")  
print (math.log(14,5))
```

5. Write a Python Program for cube sum of first n natural numbers?

```
def sumOfSeries(n):  
    sum = 0  
    for i in range(1, n+1):  
        sum +=i*i*i  
    return sum  
# Driver Function  
n = 3  
print(sumOfSeries(n))
```