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

# Python Program to Display Fibonacci Sequence Using Recursion

# Sample fibonacci numbers 1 1 2 3 5 8 13

# Define a fibonacci function.

def fibfunction(n):

# Check if the input is less than zero, if so print the message

if n < 0:

print("Enter zero or any positive integer number")

# Check if the input is zero, if so print the message

elif n == 0:

return 0

# Check if the input is either 1,2, if so, print the message

elif n == 1 or n == 2:

return 1

else:

return fibfunction(n - 1) + fibfunction(n - 2)

# call the fibonacci function

n = int(input("Enter any positive integer value"))

print(fibfunction(n))

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

# Python Program to Find Factorial of Number Using Recursion

# Define a function to calculate factorial of a number using recursion

def factrecursion(n):

if n == 1:

return n

else:

return n\*factrecursion(n-1)

# Get the input from the user

num = int(input("Enter any positive integer number"))

# check the conditions and print the factorial of a number

if num < 0:

print("Entered number is invalid. Number should be positive integer")

elif num == 0:

print("The factorial of 0 is 0")

else:

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

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

# Python Program to calculate your Body Mass Index

w = int(input("Enter the weight in kgs"))

h = int(input("Enter the height in meters"))

# apply the formula to calculate BMI

BMI = w/(h\*h)

print("BMI of a person is",BMI)

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

# Python Program to calculate the natural logarithm of any number

# import the math function

import math

# print the log without providing the base number

try:

l = float(input("Enter the number to calculate the log"))

except Exception as e:

print("logarithm of ",l," is : ", end="")

print(math.log(l))

# print the log and base

try:

l= float(input("Enter the number to calculate the log"))

except Exception as e:

print(e)

try:

b = float(input("Enter the base to calculate the log"))

except Exception as e:

print(e)

print("logarithm of ",l, "with base ",b," is : ", end="")

print(math.log(l, b))

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

# Python Program for cube sum of first n natural numbers

# python program to print cube sum of first n natural numbers

# Inbuilt function pow() is used here to calculate cube

# Get the natural number value from the user

n = int(input("Enter a positive integer number"))

# Initialize the sum value to zero

sum = 0

# iterate the loop up to a given number n

for i in range(1, n + 1):

sum = sum + pow(i, 3)

print("The cube sum of numbers is ",sum)