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| Python Assignment 6  1. Write a Python Program to Display Fibonacci Sequence Using Recursion? |
|  | # In[18]: |
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|  | n = int(input("Enter number of terms:")) |
|  |  |
|  | def fibonacci(n): |
|  | if(n <= 1): |
|  | return n |
|  | else: |
|  | return(fibonacci(n-1) + fibonacci(n-2)) |
|  |  |
|  | print("Fibonacci sequence:") |
|  | for i in range(n): |
|  | print(fibonacci(i)) |
|  |  |
|  | 2. Write a Python Program to Find Factorial of Number Using Recursion? |
|  | # In[16]: |
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|  |  |
|  | num= int(input("Enter Number: ")) |
|  |  |
|  | def recur\_factorial(n): |
|  | if n == 1: |
|  | return n |
|  | else: |
|  | return n\*recur\_factorial(n-1) |
|  |  |
|  | 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? |
|  | # In[12]: |
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|  |  |
|  | height = float(input("Enter your height in cm: ")) |
|  | weight = float(input("Enter your weight in kg: ")) |
|  | BMI = weight / (height/100)\*\*2 |
|  | print("You BMI is {BMI}") |
|  | if BMI <= 18.4: |
|  | print("You are underweight.") |
|  | elif BMI <= 24.9: |
|  | print("You are healthy.") |
|  | elif BMI <= 29.9: |
|  | print("You are over weight.") |
|  | elif BMI <= 34.9: |
|  | print("You are severely over weight.") |
|  | elif BMI <= 39.9: |
|  | print("You are obese.") |
|  | else: |
|  | print("You are severely obese.") |
|  |  |
|  | 4. Write a Python Program to calculate the natural logarithm of any number? |
|  | # In[8]: |
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|  |  |
|  | import math |
|  | n = int(input("Enter Number: ")) |
|  | a = math.log(n) |
|  |  |
|  | print("The Natural Logarithm of" ,n, "is:", a) |
|  |  |
|  | 5. Write a Python Program for cube sum of first n natural numbers? |
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|  | # In[4]: |
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|  | n = int(input("Enter Natural Number: ")) |
|  | Sum = ( n \* (n + 1) / 2 ) \*\* 2 |
|  | print("Cube sum of", n, "is", Sum) |