PHYTHON PROBLEMS-1

* + - 1. Write a program to display the first ten terms of the series:  
         (a) 1, -3, 5, -7, 9  
         (b)3,6,12,24,  
         (c) 2, 5, 10, 17  
         (d) 0, 1, 2, 3, 6,  
         (e) 0, 3, 8, 15,
      2. Write a program to find the factorial of 10,  
         Factorial of 10!=10\* 9\* 8\* 7……..1
      3. Write a program to display all tho primo numbers from 1 to 100
      4. write a program to find the factors of a number including 1 and the number  
         itself  
         Sample Input: 18  
         Sample Output  
         1, 2, 3, 6, 9, 18
      5. write a program to accept a number and display the sum of its digits  
         Sample input: 542  
         Sample Output: 5 4 2 11
      6. Write a program to print the sum of negative numbers, sum of positive odd numbers  
         and sum of positive even numbers from a list of numbers entered by the user.  
         The list terminates when the user enters zero.
      7. Write a program to calculate and print the sum of odd numbers and the sum of  
         even numbers for the first n natural numbers
      8. Write a program to compute and display the sum of the following series  
         S=(1+2)/(1\*2) + (1+2+3)/(1\*2\*3) + ………………………… + (1+2+3+……..n)/(1\*2\*………..n)
      9. Write a program to accept a number and display the new number after removing  
         all zeros.  
         Sample input: 5400207  
         Sample Output: 5427
      10. Write a program to accept a number and display the frequency of each digit present  
          in the number.  
          Sample Input: 341 124  
          Sample Output: The frequency of 1 m 2  
          The frequency of 4
      11. Write a program to accept a number and check whether the number is present in  
          the Fibonacci series or not. The program displays the message accordingly  
          Sample Input: 55  
          Sample output: 55 is present in the Fibonacci series
      12. A prime number is said to be "Twisted Prime  
          if the new number obtained after  
          reversing the digits is also a prime number, Write a program to accept a number and check whether the number is Twisted Prime' or not  
          Sample Input: 167  
          Sample Output: 761  
          167 is a Twisted Prime'
      13. A number is said to be Unique if digits of a number are not repeated in it. Write  
          a program to accept a number and check whether the number is Unique or not. The program displays the message accordingly  
          Sample input: 5463  
          Sample Output  
          It is a unique number  
          Sample input: 3272  
          Sample Output: It is not a unique number  
          Lowest Common Multiple
      14. Write a program to accept two numbers and find the Lowest Common Multiple  
          (LCM) of the numbers  
          Hint: LCM  
          Product of two numbers  
          HCF
      15. Write a program to accept two numbers and check whether they are  
          twin prime  
          or not  
          Hint: Twin prime numbers are the prime numbers whose difference is two  
          e.g.: (5, 7), (11, 13)
      16. A number is said to be Duck if the digit zero is (0) present in it. Write a program  
          to accept a number and check whether the number is Duck or not. The program  
          displays the message accordingly. (The number must not begin with zero)  
          Sample input: 5063  
          Sample Output: It is a Duck number  
          Sample Input: 7453  
          Sample Output: It is not a Duck number
      17. Write a program in Phython to find the sum of the given series:  
          (a) S=9+ 99+ 8+ 89+ 7…………………….to n  
          (b) S=1+ 1+ 2+ 3+ 5+………………………to n terms  
          (c) S= 2- 4+ 6-8…………………………..to n  
          (d) S= (1\*2)+ (2\*3)+…………………………….+(19\*20)  
          (e) S=1+ (1+2) +(1+2+3)+…………………….(1+2+3+n)  
          (f) S=1+ (1\*2)+ 2+ (1 \*2\*3)+ 3+……………..+9+(1\*2\*3\*……….10)  
          (g) S=1!+2!+3!+…………………..to n terms  
          (h) S=(1/2)+(2/3)+(3/4)…………………………….to n terms  
          (i) S=1+(3/4)+5/9)+…………………..to n terms
      18. Write a program to find the sum of the given series:  
          (a) S=a + (a2/2)+(a3/3)………………………….+(an/n)

(b) S=a + a/2! + a/3! + a/4! …………………….+ a/n!

(c) S=(a/2)+(a/4)+(a/8)+……………………….to n  
(d) S= (a+1)+ (a+2)+ (a +3)+…………………..(a+n)  
(e) S=(a+1)/3+(a+2)/5+(a+3)/7…………………to n  
(f) S=a/2 + a/5+ a/8 + a/11 + …………………… a/20  
(g) S= (1/a) + (2/a2) + (3/a3) + …………………..(n/an)  
(h) S= a – (a3/5)+ (a5/9) – (a7/13)……………….to n

* + - 1. Write a program to display the following pattern:

(a)1

3 1

5 3 1

7 5 3 1

9 7 5 3 1

(b)1 2 3 4 5

6 7 8 9

10 11 12

13 14

15

(c)15 14 13 12 11

10 9 8 7

6 5 4

3 2

1

(d)1

1 0

1 0 1

1 0 1 0

1 0 1 0 1

(e)1 2 3 4 5

2 2 3 4 5

3 3 3 4 5

4 4 4 4 5

5 5 5 5 5

(f) 1 3 5 7 9

3 5 7 9 1

5 7 9 1 3

7 9 1 3 5

9 1 3 5 7

* + - 1. On the basis of sale, a pharmaceutical company announces the following new  
         tariff of commission for their Medical Representatives and Distributors

|  |  |  |
| --- | --- | --- |
| sale | Commission of Representative | Commission of Distributor |
| Up to Rs.10,000 | 5% | 2% |
| Rs.10,001-Rs.20,000 | 8% | 3% |
| Rs.20,001-Rs.30,000 | 10% | 4% |
| More than Rs.30,000 | 12% | 5% |

write a program to accept monthly sale  
from 50 different representatives along  
with their distributors. Calculate their commissions and display the output in the  
given format:

|  |  |  |  |
| --- | --- | --- | --- |
| Sl.no | Sale | Commission of Representative | Commission of Distributor |
| xxx | xxx | xxx | xxx |