

WHILE LOOP

Program

1. Write a Python program to print all natural numbers from 1 to n.
2. Write a Python program to print all natural numbers in reverse (from n to 1).
3. Write a PYTHON program to print all alphabets from a to z.
Hint(Q3):

```
for i in range(ord('a'),ord('z')+1) print chr(i)
```
4. Write a PYTHON program to print all even numbers between 1 to 100.
5. Write a PYTHON program to print all odd number between 1 to 100.
6. Write a PYTHON program to print sum of all even numbers between 1 to n.
7. Write a PYTHON program to print sum of all odd numbers between 1 to n.
8. Write a PYTHON program to print table of any number.
9. Write a PYTHON program to enter any number and calculate sum of its digits.
10. Write a Python program to enter any number and calculate sum of all natural numbers between 1 to n.
11. Write a Python program to enter any number and find its first and last digit.
12. Write a Python program to enter any number and print its reverse.
13. Write a Python program to enter any number and check whether the number is palindrome or not.
14. Write a Python program to enter any number and find the sum of first and last digit of the number.
15. Write a Python program to enter any number and print all factors of the number.
Hint(Q15):

```
for i in range(2,n) if n%i == 0 print i
```
16. Write a Python program to enter any number and calculate its factorial.
Hint(Q16): $6! = 1*2*3*4*5*6$
17. Write a Python program to find HCF (GCD) of two numbers.
Hint(Q17):

```
if num1%i == 0 and num2%i == 0 hcf = i
```
18. Write a Python program to find LCM of two numbers.
Hint(Q18):

```
big = num1 or num2, if big % num1 ==0 and big %num2 == 0: lcm = big break else big ++
```
19. Write a Python program to enter any number and check whether it is Prime number or not.
20. Write a Python program to print all Armstrong numbers between 1 to n.
Armstrong number is a special number whose sum of cube of its digits is equal to the original number.
Hint(Q20): Example: 371 is an Armstrong number because
$$3^3 + 7^3 + 1^3 = 371$$
21. Write a Python program to print all Perfect numbers between 1 to n.
A perfect number is a positive integer which is equal to the sum of its proper positive divisors.
Hint(Q21): Example: 6 is the first perfect number
$$\text{Proper divisors of 6 are 1, 2, 3}$$
$$1+2+3 = 6. \text{ Hence 6 is a perfect number}$$
22. Write a Python program to print all Strong numbers between 1 to n.

Strong numbers are the numbers whose sum of factorial of digits is equal to the number. Hint(Q22):Example: 145 is a strong number

Since $1! + 4! + 5! = 145$

23. Write a Python program to enter any number and print its prime factors.

Factors of any number that are prime numbers are called as Prime factors of that number.

Hint(Q23):Example: 2 and 5 are the prime factors of 10.

24. Write a Python program to find sum of all prime numbers between 1 to n.

25. Write a Python program to print Fibonacci series up to n terms.

26. Write a Python program to convert Decimal to Binary number system.

27. Write a Python program to convert Decimal to Octal number system.

28. Write a Python program to convert Decimal to Hexadecimal number system.

29. Write a Python program to convert Binary to Decimal number system.

30. Write a Python program to convert Binary to Octal number system.

31. Write a Python program to convert Binary to Hexadecimal number system.

32. Write a Python program to convert Hexadecimal to Decimal number system.

33. Write a Python program to print Pascal triangle upto n rows.

34. Star pattern programs - Write a Python program to print the given star patterns

35. Print star pattern with digits. 9 times 9, 7 times 7, 5 times, 5 etc

Hint(Q35):999999999

7777777

55555

333

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