

## Programs on Looping Control Structure [Additional]

Q1. Write a Python program that will print your name 10 times

Q2. Write a Python program that will print 1 2 3 4 5 6 7 8 9 10

Q3. Write a Python program that will print the number between m and n

Q4. Write a Python program that will print all odd number between m and n

Q5. Write a Python program that will print 9 7 5 3 1 -1 -3 -5 -7 -9

Q6. Write a Python program that will print sum of the following series

$$\text{Sum} = 1 + \frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n}$$

Q7 Write a Python program that will print sum of the following series

$$\text{Sum} = 1 + \frac{1}{2!} + \frac{1}{3!} + \dots + \frac{1}{n!}$$

Q8. Write a Python program that will print sum of the following series

$$e^x = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots + \frac{x^n}{n!}$$

Q9. Write a Python program that will read x and compute  $\sin(x)$

(Hints: Use Taylor's series expansion)

Q10. Write a Python program that will read x and compute  $\cos(x)$

(Hints: Use Taylor's series expansion)

Q11 Write a Python program that will check the number is prime or composite.

Q12. Write a Python program that will read two integers and compute GCD and LCM.

Q13. Write a Python program that read an integer and print the number of digit.

Q14. Write a Python program that will read a number and compute sum of the digit

Ex: let num= 3456 output should be 18

Q15. Write a Python program that will reverse an integer

i.e num =3456 reverse num=6543

Q16. Write a Python program that will check a number is palindrome or not.

i.e 12321 is a palindrome

**Q17. Write a python program to find the Fibonacci series up to  $n^{\text{th}}$  term.**

**Q18. Write a Python program to check the number is Armstrong or not. For example, 371 is an Armstrong number since  $3*3*3 + 7*7*7 + 1*1*1 = 371$ .**

**Q19. Write a Python program that will display the prime's number between M and N.**

**Q20. Write a python program that will take a positive integer (num say) as input and display the positive numbers, which are less than num and relatively prime to num.**

**Q21. Write python programs that will print the following output.**

**a.**

**1**

**1 2**

**1 2 3**

**1 2 3 4**

**b.**

**1**

**2 2**

**3 3 3**

**4 4 4 4**

**c.**

**A A A A A A**

**A A A A A**

**A A A A A**

**A A A A A**

**A A A A A A**

d.

```
a
a  b
a  b  c
```

e.

```
aaaaaa
aaaaa
aaaa
aaa
aa
a
```

f.

```
  *
 * * *
* * * * *
 * * * * *
* * * * * *
* * * * * * *
```

g.

```
  1
 2 3 2
3 4 5 4 3
4 5 6 7 6 5 4
5 6 7 8 9 8 7 6 5
```

h.

```
  1
 1  1
 1  2  1
 1  3  3  1
 1  4  6  4  1
 1  5 10 10 5  1
```