

Practical No. 5 : Write Python program to demonstrate use of looping statements: 'while' loop, 'for' loop and Nested loop

- **Practical related questions**

1. Write a Python program that takes a number and checks whether it is a palindrome or not.

→

```
num = int(input("Enter a number: "))
reverse = 0
temp = num
while temp > 0:
    digit = temp % 10
    reverse = (reverse * 10) + digit
    temp = temp // 10
if num == reverse:
    print(num, "is a Palindrome")
else:
    print(num, "is not a Palindrome")
```

Output:

```
Enter a number: 123
123 is not a Palindrome
```

2. Write a Python program to print all even numbers between 1 to 100 using while loop.

→

```
num = 1
while num <= 100:
    if num % 2 == 0:
        print(num)
    num = num + 1
```

Output:

2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40,
 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76,
 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100

3. Print the following patterns using loop:

a) 1010101
 10101
 101
 1



```
rows = 4
for i in range(rows):
    for space in range(i):
        print(" ", end="")
    for j in range(2 * (rows - i) - 1):
        if j % 2 == 0:
            print("1", end="")
        else:
            print("0", end="")
    print()
```

b) *

 *



```
rows = 3
for i in range(1, rows + 1):
    print(" " * (rows - i) + "*" * (2 * i - 1))

for i in range(rows - 1, 0, -1):
    print(" " * (rows - i) + "*" * (2 * i - 1))
```

4. Change the following Python code from using a while loop to for loop:

```
x=1
while x<10:
    print x,
    x+=1
```



```
for x in range(1, 10):
    print(x, end=" ")
```

Output:

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

5. Write a Python Program to Reverse a given number.

```
num = int(input("Enter a number: "))
reverse = 0
while num > 0:
    digit = num % 10
    reverse = (reverse * 10) + digit
    num = num // 10
print("Reversed number is:", reverse)
```

Output:

```
Enter a number: 9821
Reversed number is: 1289
```

6. Write a python program to find Factorial of given number.

```
num = int(input("Enter a number: "))
factorial = 1
for i in range(1, num + 1):
    factorial = factorial * i
print("Factorial of", num, "is:", factorial)
```

Output:

```
Enter a number: 5
Factorial of 5 is: 120
```

7. Write a python program to find Fibonacci series for given number.

```
n = int(input("Enter the number of terms: "))
a = 0
b = 1
if n <= 0:
    print("Please enter a positive number.")
else:
    print("Fibonacci series:")
    for i in range(n):
        print(a, end=" ")
        c = a + b
        a = b
        b = c
```

Output:

```
Enter the number of terms: 6
Fibonacci series:
0 1 1 2 3 5
```

8. Find sum of four digit number.

```
num = int(input("Enter a four-digit number: "))
sum_of_digits = 0
while num > 0:
    digit = num % 10
    sum_of_digits = sum_of_digits + digit
    num = num // 10
print("Sum of digits is:", sum_of_digits)
```

Output:

```
Enter a four-digit number: 8543
Sum of digits is: 20
```