

Lab no.06

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Task no.1

Q) Basic Task: Write a for loop to print the first 10 natural numbers.

```
for i in range(1, 11):  
    print(i)
```

1

2

3

4

5

6

7

8

9

10

Task no.2

Q) Intermediate Task: Write a while loop that prints numbers from 10 down to 1.

```
num = 10

while num >= 1:
    print(num)
    num -= 1
```

```
10
9
8
7
6
5
4
3
2
1
```

Task no.3

Q) Advanced Task: Create a program that uses a for loop to iterate over a string and count the number of vowels.

```
text = input("Enter a string: ")

vowels = "aeiouAEIOU"
vowel_count = 0

for char in text:
    if char in vowels:
        vowel_count += 1

print("Number of vowels:", vowel_count)
```

```
Enter a string: abc
Number of vowels: 1
```

Task no.4

Q) Challenge Task: Write a program that prints the Fibonacci series up to n terms using a while loop

```
n = int(input("Enter the number of terms: "))

a, b = 0, 1
count = 0

while count < n:
    print(a, end=" ")
    a, b = b, a + b
    count += 1
```

```
Enter the number of terms: 12
0 1 1 2 3 5 8 13 21 34 55 89
```