Name: **PARAS RATHI**

Roll No: **BIT-24S-007**

Lab 6:

Task 1:

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

Program:

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

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

Task 2:

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

Program:

```
i = 10
while i >= 1:
    print(i)
    i -= 1
```

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

Task 3:

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

Program:

```
text = input("Enter a string: ")
vowels = "aeiouAEIOU"
count = 0

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

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

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

Challenge Task:

Write a program that prints the Fibonacci series up to n terms using a while loop.

Program:

```
n = int(input("Enter the number of terms: "))
a, b = 0, 1
count = 0

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

```
Enter the number of terms:  3
0
1
1
```