

Name: Maheen fatima

Roll No: BIT-24S-033

GitHub link: <https://github.com/maheen6327>

Lab 2:

Task 1:

Print numbers from 1 to 10 using a for loop.

Program:

```
[1]: for num in range(1, 11):  
      print(num)
```

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

Task 2:



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Print all even numbers between 1 and 20 using a while loop.

Program:

```
[2]: num = 2
while num <= 20:
    print(num)
    num += 2
```

```
2
4
6
8
10
12
14
16
18
20
```

Task 3:

Calculate the sum of numbers from 1 to 100 using a loop.

Program:



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```
[3]: total = 0
    for num in range(1, 101):
        total += num

    print(f"The sum of numbers from 1 to 100 is: {total}")
```

The sum of numbers from 1 to 100 is: 5050

Task 4:

Print the multiplication table of 5 using a loop:

Program:

```
[4]: num = 5
    print(f"Multiplication Table of {num}:")

    for i in range(1, 11):
        print(f"{num} x {i} = {num * i}")
```

Multiplication Table of 5:

5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50

Task 5:

Find the factorial of a given number using a for loop.

Program:



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```
[5]: num = int(input("Enter a number to find its factorial: "))
      factorial = 1
      if num < 0:
          print("Factorial does not exist for negative numbers.")
      else:
          for i in range(1, num + 1):
              factorial *= i

          print(f"The factorial of {num} is: {factorial}")
```

```
Enter a number to find its factorial: 4
The factorial of 4 is: 24
```

Task 6:

Create a list of numbers and print only the odd numbers using a loop.

Program:

```
[6]: numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
      for num in numbers:
          if num % 2 != 0:
              print(num)
```

```
1
3
5
7
9
```

Task 7:



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Iterate over a list of fruits and print each item.

Program:

```
fruits = ["apple", "banana", "cherry", "date", "elderberry", "fig", "grape"]  
for fruit in fruits:  
    print(fruit)
```

```
apple  
banana  
cherry  
date  
elderberry  
fig  
grape
```



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