🧮 Assignment: For Loop in Python
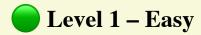
🎯 **Objective:**

To understand the syntax, usage, and various applications of the `for` loop in Python for iteration over sequences and other iterable objects.

🟢 Level 1 – Easy

✅ Task 1: Print Numbers 1 to 10

Write a `for` loop to print numbers from 1 to 10.

✅ Task 2: Print Elements of a List

Given a list of fruits:

fruits = ["apple", "banana", "mango", "orange"]

Use a `for` loop to print each fruit.

✅ Task 3: Calculate the Sum of Numbers

Use a `for` loop to calculate and print the sum of all numbers from 1 to 100.

🟡 Level 2 – Medium

✅ Task 4: Print Even Numbers from a List

Given:

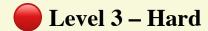numbers = [10, 21, 4, 45, 66, 93]

Use a `for` loop to print only even numbers.

✅ Task 5: Loop Through a String

Write a `for` loop to print each character in the string `"Python"`.

✅ Task 6: Multiplication Table

Take input from the user and print its multiplication table up to 10 using a `for` loop.

🔴 Level 3 – Hard

✅ Task 7: Nested `for` Loops – Pattern Printing

Print the following pattern using nested `for` loops:

```
*

* *

* * *

* * * *

* * * * *
```

✅ Task 8: Find Prime Numbers in Range

Write a program using `for` loop to print all prime numbers between 1 and 50.

✅ Task 9: Loop Through a Dictionary

Given:

student = {"name": "Alice", "age": 20, "grade": "A"}

Use a `for` loop to print all keys and their corresponding values.

✅ Task 10: List Comprehension with `for` Loop

Write a list comprehension to create a list of squares of numbers from 1 to 10.