**Looping (For, While)**

1. **Introduction to for and while loops.**

**1. for Loop**

The for loop in Python is used to iterate over a sequence (such as a list, tuple, dictionary, set, or string) and execute a block of code for each item in the sequence.

fruits = ["apple", "banana", "cherry"]

for fruit in fruits:

print(fruit)

**Output:**

apple

banana

cherry

**2. while Loop**

The while loop repeatedly executes a block of code as long as a specified condition is True.

**Example:**

i = 1

while i <= 5:

print(i)

i += 1

**Output:**

1

2

3

4

5

1. **Using loops with collections (lists, tuples, etc.).**

**1. Iterating Over Lists**

Lists are ordered collections in Python. You can use a for loop to iterate over each element in a list.

**Example:**

numbers = [10, 20, 30, 40]

for num in numbers:

print(num)

**Output:**

10

20

30

40

**2. Iterating Over Tuples**

Tuples are similar to lists but are immutable. You can iterate over a tuple in the same way as a list.

**Example:**

coordinates = (1, 2, 3)

for coord in coordinates:

print(coord)

**Output:**

1

2

3