Topics Of the Day4

- INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING
- WHAT IS A CONSTRUCTOR
- GETTERS AND SETTERS IN PYTHON
- INHERITANCE IN PYTHON
- TYPES OF ACCESS MODIFIERS IN PYTHON
- INSTANCE VARIABLES VS CLASS VARIABLES
- Single Level Inheritance in Python
- What is Multiple Inheritance?
- What is Multilevel Inheritance:
- What is Hybrid Inheritance
- Super()Keyword in Python:

Q1. Create a class Circle with radius and a method to calculate area.

```
Class Circle:
        pass
```

Q2. Create a class Employee with a constructor that stores name and salary.

```
Class Employee :
        pass
```

Q3. Create a setter method to update age only if it is >= 18.

Q1. Create Animal → Dog and create given method then call dog's method.

Animal→ info Dog→ bark

Q2. Access a private variable (id) using name-mangling

Q3. Create instance variables for name and age and show them for two objects

Q1. Create object from a string "name-age-id" using alternative constructor

Q2. Use super() to call parent constructor.

Exmaple: Base(name,age) → Derived(name,age,language)

Q3. Use super() to access parent class method.

Exmaple: Base → showinfo() and Derived showinfo()

Q1. Create a class using __str__() method.

Q2. Overload * operator for multiplying object values.
Point(4,6) * Point(2,5) → Point(8,30)

Q3. Add new method in child not in parent

Create class A and B, and class C inheriting from A and B.

A → B → C (three-level inheritance) and call methods of all and use super() to pass value

A→ name
B→ age
C→ course

Create a hybrid structure: A → B, A → C, C → D.