Experiment 3: Input:
Part 1:
```
# Branch: Computer
# Year: 2025
# Sem: 4
# Name: Mohd Qayam
# UIN: 231P038
# Roll No.: 02

print("**************************")
print("Inheritance")
print("Mohd Qayam")
print("**************************")

class Person:
    def __init__(self, name, age):
        self.name = name
        self.age = age

class Student(Person):
    def __init__(self, name, age, roll_no):
        super().__init__(name, age)
        self.roll_no = roll_no

class Teacher(Person):
    def __init__(self, name, age, subject):
        super().__init__(name, age)
        self.subject = subject

person = Person("Adyan", 20)
student = Student("Adyan", 20, 123)
teacher = Teacher("Adyan", 20, "Maths")

print(person.name, person.age)
print(student.name, student.age, student.roll_no)
print(teacher.name, teacher.age, teacher.subject)
```

Part 2:
```
# Branch: Computer
# Year: 2025
# Sem: 4
# Name: Mohd Qayam
# UIN: 231P038
# Roll No.: 02

print("**************************")
print("Multiple Inheritance")
print("Mohd Qayam")
```

```python
print("*************************")

class Employee:
    def __init__(self,id):
        self.id = id
    def Setname(self,name):
        self.name = name
    def Getname(self):
        return self.name
    def Getid(self):
        return self.id

class Student:
    def __init__(self,college):
        self.college = college
    def Getcollege(self):
        return self.college

class Intern(Employee,Student):
    def __init__(self,id,college,period):
        Employee.__init__(self,id)
        Student.__init__(self,college)
        self.period = period
    def Setdetails(self,name):
        self.name = name
    def Getdetails(self):
        return self.name

intern = Intern(02,"Rizvi",4)
intern.Setdetails("Adyan")
print(intern.Getname(),intern.Getid(),intern.Getcollege(),intern.Getdetails(),
intern.period)

Part 3:
# AIM: Write a program to calculate volume of sphere using multilevel
inheritance. The base class
#      method will accept the radius from user. A class will be derived from
the above-mentioned class
#      that will have a method to find an area of circle and another class
derived from this will have
#      methods to calculate and display the volume of sphere.
# Branch: Computer
# Year: 2025
# Sem: 4
# Name: Mohd Qayam
# UIN: 231P038
# Roll No.: 02
```

```
print("**************************")
print("Volume of Sphere")
print("Mohd Qayam")
print("**************************")

import math

class Object:
    def __init__(self, radius):
        self.radius = radius

class Circle(Object):
    def area(self):
        return math.pi * (self.radius ** 2)

class Sphere(Circle):
    def volume(self):
        return (4 / 3) * math.pi * (self.radius ** 3)

    def display(self):
        print("Radius:", self.radius)
        print("Area:", self.area())
        print("Volume:", self.volume())

sphere = Sphere(5)
sphere.display()

Part 4:
# AIM: Write a program to calculate volume of sphere using multilevel
inheritance demonstrating method
#      overriding. The base class method will accept the radius from user. A
class will be derived from
#      the above-mentioned class that will have a method to find area of
circle and another class derived
#      from this will have methods to calculate and display the volume of
sphere.
# Branch: Computer
# Year: 2025
# Sem: 4
# Name: Mohd Qayam
# UIN: 231P038
# Roll No.: 02

print("**************************")
print("Volume of Sphere w Method Overriding")
print("Mohd Qayam")
print("**************************")
```

```python
import math
class Object:
    def __init__(self, radius):
        self.radius = radius


class Circle(Object):
    def area(self):
        return math.pi * (self.radius ** 2)


class Sphere(Circle):
    def volume(self):
        return (4 / 3) * math.pi * (self.radius ** 3)
    def display(self):
        print("Radius:", self.radius)
        print("Area:", self.area())
        print("Volume:", self.volume())


sphere = Sphere(5)
sphere.display()
```

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Adyan 20
Adyan 20 123
Adyan 20 Maths

Adyan 33 Rizvi Adyan 4

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Radius: 5
Area: 78.53981633974483
Volume: 523.5987755982989

Radius: 5
Area: 78.53981633974483
Volume: 523.5987755982989