

Experiment - 13

Aim: Solving a problem using the concept of Inheritance.

Objective: Write a Program to implement the hybrid inheritance in Python.

Program:

```
# Creating a Base class named University
class University:
    def __init__(self):
        print("Constructor of the Base class \n")
        self.univ = "CSVТУ"

    def display(self):
        print("The University name is:", self.univ)

# 1st Derived Class (Single Inheritance)
class Course(University):
    def __init__(self):
        print("Constructor of the 1st Derived Class")
        University.__init__(self) #Calling Constructor of Parent Class
        self.course = "B.Tech. (H.)"

    def display(self):
        print("The Course name is: ", self.course)
        University.display(self) #Calling display() of Parent Class

# 2nd Derived Class (Single Inheritance)
class Branch(University):
    def __init__(self):
        print("Constructor of the 2nd Derived Class")
        self.branch = "CSE (AI & DS)"

    def display(self):
        print("The Branch name is: ",self.branch)

# 3rd Derived Class (Multiple Inheritance)
class Student(Course, Branch):
    def __init__(self):
        print("Constructor of 3rd class derived from Course and Branch class")
        self.name = "John"

        Branch.__init__(self) #Calling Constructor of 1st derived class
        Course.__init__(self) #Calling Constructor of 2nd derived class

    def display(self):
        print("The Name of the student is:", self.name)
        Branch.display(self) #Calling display() of 1st derived class
        Course.display(self) #Calling display() of 2nd derived class

#Object
ob = Student() # Object named ob of the 3rd derived class Student

ob.display() # Calling the display() of 3rd derived class
```

Output:

```
Constructor of 3rd class derived from Course and Branch class
Constructor of the 2nd Derived Class
Constructor of the 1st Derived Class
Constructor of the Base class
```

```
The Name of the student is: John
The Branch name is: CSE (AI & DS)
The Course name is: B.Tech. (H.)
The University name is: CSVТУ
```