Name → Ameya Barapatre
Roll No-06
SE-DS

SARASWATI Education Society's
SARASWATI College of Engineering

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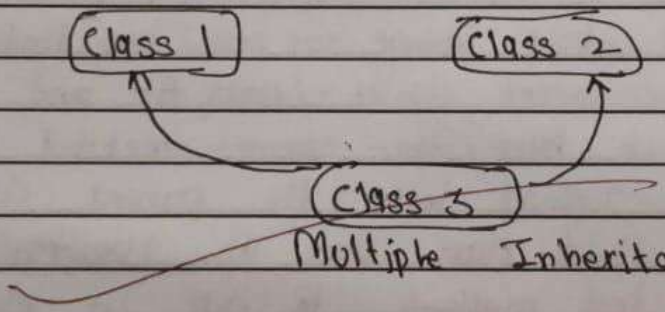
Experiment No- 09

Aim → To write a program on multiple inheritance

Resource Required → Pentium IV, JDK, Pointer

Theory →
Multiple inheritance is one of the important features of OOP. When a single child class tries to inherit the properties of the multiple parent class it is called multiple inheritance.



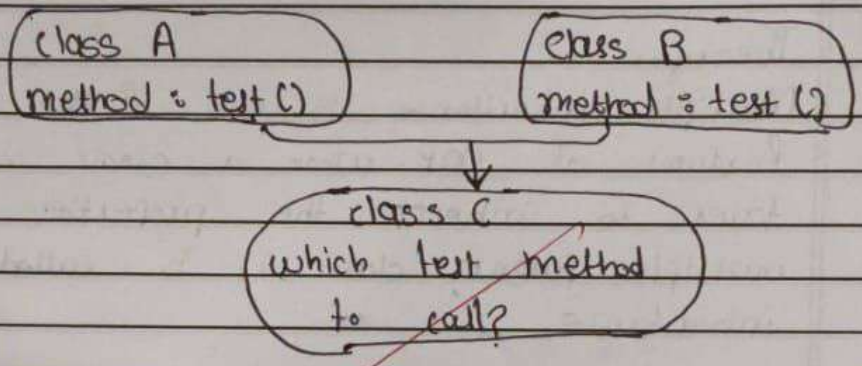
Multiple Inheritance

In the above image we can see that the subclass 'class 3' tries to inherit properties of both the parent class 'class 1' and 'class 2'. The problem arises when both parent classes have the same methods then the compiler gets confused about which method to call.

another

Why multiple inheritance program in Java is not supported?

Multiple inheritance program in java is not possible to reduce the complexity and make the language more simple.



In the above image, we can see that we have two parent classes 'class A' and class B' and both have the same method test now if we extend both the parent class in the same child class then the question arises that which test method to call in child class

How to acheive Multiple inheritance in java using the interface and default method:

We can acheive multiple inheritance in java using the interface and default method. After this feature a class can inherit override the superclass method in the subclass.

Java does not support multiple inheritance through classes to avoid the complexities and ambiguity that arise particularly the "Diamond problem", where a class inherits from two classes that have a common ancestor. However java allows multiple inheritance through interfaces, enabling a class to implement multiple interfaces. This designs maintains simplicity while allowing flexibility, as interfaces only define method signatures without implementing behaviour, thus avoiding conflicts in method definations.

→ Conclusion → Thus we have successfully implement java multiple inheritance program.

Shamtekar
11/10/24