**OOM Tutorial -04**

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**Q1)** Code Submitted

**Q2)** Output:-

running

5

running safely with 60km

5

running safely with 60km

10

**Q3)**

Errors will appear if we attempt to inherit the Animal and Dog classes into the Puppydog class. Multiple inheritance is not possible in Java because only one child can inherit from two parent classes. Multiple inheritance has the drawback that a subclass may not be able to choose between two classes that specify distinct methods for doing the same task.

However, we may achieve multiple inheritance indirectly by utilizing interfaces. Since several interfaces can be implemented in Java, we can use interfaces to achieve the same result. Due to the fact that interfaces simply describe what a class does, not how it does it. Since interface methods are by nature abstract and the interface does not give implementations, we can bypass the ambiguity.

**Code for multiple interfaces:-**

interface Animal {

void eat();

}

interface Dog {

abstract void sound();

}

class Puppydog implements Animal,Dog {

public void eat()

{

System.out.println("Eating");

}

public void sound(){

System.out.println("barking");

}

}

public class Tut03\_Q2

{

public static void main(String[] args) {

Puppydog p = new Puppydog();

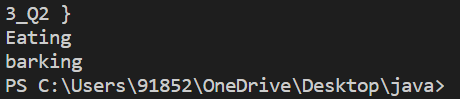
p.eat();

p.sound();

}

}

**Output**

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**Q4)**

**Code:-**

class Animal{

void announce(){

System.out.println("Announcing Animal class");

}

}

class Dog extends Animal{

void announce()

{

System.out.println("Annoucing Dog class");

}

}

class Puppydog extends Dog{}

public class Tut4\_Q5

{

public static void main(String[] args)

{

Puppydog p1=new Puppydog();

p1.announce();

}

}

**Output**

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The Output will print the announce method of dog class, because the Puppydog class is the subclass of the Dog class and hence, it inherits all the methods of its parent class, and it will not print the announce method of Animal class because the reference and the object that we have created is of the Puppydog class.

**Q5) Output:-**

111 NAME1 IIITA

222 NAME2 IIITA

333 NAME3 IIITA