//Design



//Code

**1. Interface Classes Design**

public interface Drawable {

void drawObject();

}

public interface Rotatable {

void rotateObject();

}

public interface Resizable {

void resizeObject();

}

public interface Sounds {

void playSound();

}

**2. Classes Design (Animal & Vehicle)**

public class Animal implements Drawable, Rotatable, Resizable, Sounds {

private String name;

public Animal(String name) {

this.name = name;

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

@Override

public void drawObject() {

System.out.println("Drawing an Animal");

}

@Override

public void rotateObject() {

System.out.println("Rotating an Animal");

}

@Override

public void resizeObject() {

System.out.println("Resizing an Animal");

}

@Override

public void playSound() {

System.out.println("Animal sound");

}

}

public class Vehicle implements Drawable, Rotatable, Resizable, Sounds {

private String name;

private int age;

public Vehicle(String name, int age) {

this.name = name;

this.age = age;

}

public String getName() {

return name;

}

public int getAge() {

return age;

}

public void setName(String name) {

this.name = name;

}

public void setAge(int age) {

this.age = age;

}

@Override

public void drawObject() {

System.out.println("Drawing a Vehicle");

}

@Override

public void rotateObject() {

System.out.println("Rotating a Vehicle");

}

@Override

public void resizeObject() {

System.out.println("Resizing a Vehicle");

}

@Override

public void playSound() {

System.out.println("Vehicle sound");

}

}

**3. Manipulator Program**

public class Manipulator {

public static void main(String[] args) {

Drawable[] objects = new Drawable[4];

objects[0] = new Animal("Lion");

objects[1] = new Vehicle("Car", 5);

objects[2] = new Vehicle("Bus", 10);

objects[3] = new Animal("Elephant");

for (Drawable object : objects) {

object.drawObject();

if (object instanceof Rotatable) {

((Rotatable) object).rotateObject();

}

if (object instanceof Resizable) {

((Resizable) object).resizeObject();

}

if (object instanceof Sounds) {

((Sounds) object).playSound();

}

System.out.println();

}

}

}

//Output

