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1. Implement Abstract class with overloading and overriding

```
abstract class Animal {  
    abstract void sound();  
  
    void eat() {  
        System.out.println("Animal is eating.");  
    }  
  
    void eat(String food) {  
        System.out.println("Animal is eating " + food);  
    }  
}  
  
class Dog extends Animal {  
    @Override  
    void sound() {  
        System.out.println("Dog barks.");  
    }  
  
    @Override  
    void eat() {  
        System.out.println("Dog is eating.");  
    }  
}  
  
class AnimalSound {  
    private Animal animal;
```

```
public AnimalSound(Animal animal) {
    this.animal = animal;
}

public void makeSound() {
    animal.sound();
}

public void makeEat() {
    animal.eat();
}

public void makeEat(String food) {
    animal.eat(food);
}
}

public class Main {
    public static void main(String[] args) {
        Animal myDog = new Dog();
        AnimalSound animalSound = new AnimalSound(myDog);

        animalSound.makeSound();
        animalSound.makeEat();
        animalSound.makeEat("bone");
    }
}
```

Output:

Dog barks.

Dog is eating.

Animal is eating bone.

2. Implement Multiple inheritance with Interface

```
interface CanFly {  
    void fly();  
}
```

```
interface CanSwim {  
    void swim();  
}
```

```
class Duck implements CanFly, CanSwim {  
    @Override  
    public void fly() {  
        System.out.println("Duck is flying.");  
    }  
  
    @Override  
    public void swim() {  
        System.out.println("Duck is swimming.");  
    }  
}
```

```
class AnimalActions {  
    private CanFly flyer;  
    private CanSwim swimmer;  
  
    public AnimalActions(CanFly flyer, CanSwim swimmer) {  
        this.flyer = flyer;  
        this.swimmer = swimmer;  
    }  
}
```

```

    public void performFly() {
        flyer.fly();
    }

    public void performSwim() {
        swimmer.swim();
    }
}

public class Main {
    public static void main(String[] args) {
        Duck duck = new Duck();
        AnimalActions actions = new AnimalActions(duck, duck);

        actions.performFly();
        actions.performSwim();
    }
}

```

Output:

Duck is flying.

Duck is swimming.

3. Show final methods in the class that can't be overridden

```

class Animal {
    final void sleep() {
        System.out.println("Animal is sleeping.");
    }

    void eat() {
        System.out.println("Animal is eating.");
    }
}

```

```
}  
}
```

```
class Dog extends Animal {  
    @Override  
    void eat() {  
        System.out.println("Dog is eating.");  
    }  
}
```

```
class AnimalBehavior {  
    private Animal animal;  
  
    public AnimalBehavior(Animal animal) {  
        this.animal = animal;  
    }  
  
    public void performSleep() {  
        animal.sleep();  
    }  
  
    public void performEat() {  
        animal.eat();  
    }  
}
```

```
public class Main {  
    public static void main(String[] args) {  
        Animal myDog = new Dog();  
        AnimalBehavior behavior = new AnimalBehavior(myDog);  
    }  
}
```

```
        behavior.performSleep();  
        behavior.performEat();  
    }  
}
```

Output:

Animal is sleeping.

Dog is eating.