

ID: IT22026

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```
package abstractclasses;
```

```
interface Flyable {
```

```
    void fly();
```

```
abstract class FlyingVehicle {
```

```
    String model;
```

```
    public FlyingVehicle(String model) {
```

```
        this.model = model;
```

```
    }
```

```
    abstract void takeoff();
```

```
    public void showModel() {
```

```
        System.out.println("model: " + model);
```

```
    }
```

```
}
```

```
class Airplane extends FlyingVehicle implements Flyable {
```

```
    public Airplane(String model) {
```

```
        super(model);
```

```
    }
```

```
@Override
```

```
    public void fly() {
```

```
        System.out.println("Airplane is flying at high altitude.");
```

```
}
```

@Override

void takeoff() {

System.out.println("Airplane takes off from
the runway.");

}

}

Class Helicopter extends FlyingVehicle implements Airable {

public Helicopter(String model) {

super(model);

}

@Override

public void fly() {

System.out.println("Helicopter is flying at low
altitude.");

}

@Override

void takeoff() {

System.out.println("Helicopter takes off vertically.");

}

}

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```
public class FlightDemo {  
    public static void main(String[] args) {  
        FlyingVehicle plane = new Airplane("Boeing 747");  
        plane.showModel();  
        ((Flyable) plane).fly();  
        plane.takeoff();  
        System.out.println();  
        FlyingVehicle helicopter Helicopter = new Helicopter("Bell 206");  
        Helicopter.showModel();  
        ((Flyable) Helicopter).fly();  
        Helicopter.takeoff();  
    }  
}
```