HW7: Chapter 7

Q1: complete the relationship between classes and interface.



extends

implements

extends

Q2: what is the error in the following code and solve it:

interface Animal {

private void speak();

}

Error: It must be general and cannot be private

Solve: interface Animal {

void speak();

}

Error: Give an initial value

Solve: interface shape {

String color="red";

public void getArea();

}

Or

nterface shape {

Final string color="red";

public void getArea();

}

interface shape {

String color; // error

public void getArea();

}

Q3: Compare between Abstract class and interface:

|  |  |
| --- | --- |
| **Abstract class** | **Interface** |
| An abstract class is a class that cannot be instantiated on its own and may contain abstract methods, concrete methods, instance variables, and constructors. | An interface is a reference type in Java that contains only abstract methods, default methods, static methods, and constant declarations. |
| Abstract class doesn't support multiple inheritance. | Interface supports multiple inheritance |
| Supports both single and multiple inheritance. A Java class can extend only one abstract class | Supports multiple inheritance. A Java class can implement multiple interfaces |
| Subclasses extend an abstract class using the **extends** keyword. | Classes implement an interface using the **implements** keyword |
| Can have constructors with various access modifiers (public, protected, default, or private) | All methods declared in an interface are implicitly public and abstract. Fields are implicitly public, static, and final |