1. **Similarities between abstract and interfaces**

**1.Abstract and interface are used to abstract methods and then let subclasses implement them, allowing for the definition of abstract methods**

**2. Interface and abstract can’t create objects of their own class, Only subclasses can instantiate subclass objects;**

1. **Difference between abstract class and interface.**
2. **When subclasses want to extend themselves, the abstract class uses the extends keyword, which we call Inheritance, and the interface uses the implements keyword, which we call implementation.**
3. **An abstract class can implement an interface, an interface can only inherit an interface, The Interfaces cannot inherit classes.**
4. **A class can only inherit one parent class, but it may implement multiple interfaces, therefore if we have the choice between abstract classes and interfaces, try to select interfaces so that subclasses have more flexibility.**
5. **An interface is more direct than an abstract class because it has no member property,** **The only thing a subclass can do after implementing the interface is override the method.**
6. **After inheriting the abstract class from the parent class, the subclass also inherits the parent class's member property.**
7. **A member property can be defined in an abstract class, but not in an interface; only static properties can be defined in an interface.**
8. **Interfaces can only use the final keyword to define static constants, not static variables**
9. **Interface has no constructor.**
10. **An abstract class cannot be instantiated, so what does it need a constructor to do?**

* **The function is to limit the construction behavior of subclasses. For example, an abstract class can define several parameters for the constructor, When a subclass is instantiated, it must find a way to send these parameters in.**

1. **Various versions of Java have different features.**
2. **Before Java8, the interface can only define abstract methods, not implement methods, and cannot define static methods, Java8 can define static methods, and can use the default keyword**

**to implement the method**

1. **Java9 has a new feature that can define private methods in interfaces, which can separate some internal logic.**
2. **When should you use abstract methods vs. abstract classes?**

* **Use abstract classes when you need to let subclasses inherit member variables, or need to control the instantiation of subclasses, otherwise, use interfaces**
* **Prefer interfaces to avoid the limitations of single inheritance**