**Questions on Abstract Class and Interface.**

**1. What is an abstract class?**

**Abstract class is like an incomplete class that contains zero or more abstract methods.**

**2. What is an abstract method?**

**The method that doesn’t have any implementation is called abstract method.**

**3. What is an interface?**

**Interface is the media between two systems, Interface cannot have the implementation rather the implementation must be present in another system.**

**4. What is the difference between abstract class and an interface?**

**Ans:**

|  |  |
| --- | --- |
| **Abstract Class** | **Interface** |
| **Multiple inheritance is not possible.** | **Multiple Inheritance is possible.** |
| **An abstract class can contain both abstract and concrete methods.** | **An interface can only contain abstract methods.** |
| **An abstract keyword is used before a class keyword to make an abstract class.** | **An Interface keyword is used to create an Interface.** |

**5. When should you use an abstract class, when an interface, when both?**

Abstract classes are useful in a situation when some general methods should be implemented and specialization behavior should be implemented by subclasses.

Interfaces are useful in a situation when all its properties need to be implemented by subclasses

**6. Why the methods of interface are public and abstract by default?**

**Interface methods are public since they should be available to third party vendors to provide implementation; they are because their implementation is left for third party vendors.**

**7. Can the Abstract class can be private, final, static?**

* **Final: Not possible. An abstract class without being inherited is of no use and hence will result in compile time error.**
* **Private: Not Possible, simple class is also not to be private.**
* **Static:**

**8. Can the Interface can be private, protected, final, static?**

* **Final: Not possible. Doing so will result in compilation error.**
* **Private: No**
* **Static:**

**9. Can we define private and protected modifiers for variables in interfaces?**

**No.**

**10. Can we define private and protected modifiers for variables in Abstract Class?**

**No.**

**11. What modifiers are allowed for methods in an Interface?**

**Only public and abstract modifiers are allowed for methods in interfaces.**

**12. What is use of an abstract variable?**

**Variables can't be declared as abstract. only classes and methods can be declared as abstract.**

**13. Can you create an object of an abstract class?**

**Not possible. Abstract classes can't be instantiated.**

**14. Can an abstract class be defined without any abstract methods?**

**Yes it's possible. This is basically to avoid instance creation of the class.**

**15. Can a method inside an Interface be declared as final?**

**No not possible. Doing so will result in compilation error. Public and abstract are the only applicable modifiers for method declaration in an interface.**

**16. Can an Interface implement another Interface?**

**Interfaces doesn't provide implementation hence an interface cannot implement another interface.**

**17. Can an Interface extend another Interface?**

**Yes an Interface can inherit another Interface, for that matter an Interface can extend more than one Interface.**

**18. Can a Class extend more than one Class?**

**Not possible. A Class can extend only one class but can implement any number of Interfaces.**

**19. Can a class be defined inside an Interface?**

**Yes it's possible.**

**20. What is a Marker Interface?**

**An Interface which doesn't have any declaration inside but still enforces a mechanism.**