**Interface Assignments by gaurav diwan**

**Java with DSA and System design**

Q1] what is an interface in java?

Ans. An interface in Java is a collection of abstract methods. Classes implement interfaces to provide method implementations.

Q2] which modifiers are allowed for methods in an interface ? explain with example.

Ans. Methods in an interface can have the following modifiers:

1. **public:** Accessible to all classes.
2. **abstract:** No method body; must be implemented by classes.

**Example :**

public interface MyInterface {

public abstract void myMethod();

}

Q3] what is the use of interface in java ? or why do we use interface in java?

Ans. Interfaces in Java are used to achieve abstraction and provide a contract for implementing classes. They define a set of abstract methods that implementing classes must provide, promoting code flexibility and multiple inheritance through interface implementation.

Q4] what is the difference between abstract class and interface in java ?

Ans. Abstract Class:

- Can have abstract and non-abstract methods.

- Supports constructors.

- Can have instance variables.

- Allows method implementation.

Interface:

- Can only have abstract methods.

- Cannot have constructors.

- All variables are implicitly public, static, and final.

- Provides multiple inheritance through interface implementation.

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