

# SNS College of Technology

(An Autonomous Institutions)



Department of Computer Science and Engineering

23CSB201-Object Oriented Programming

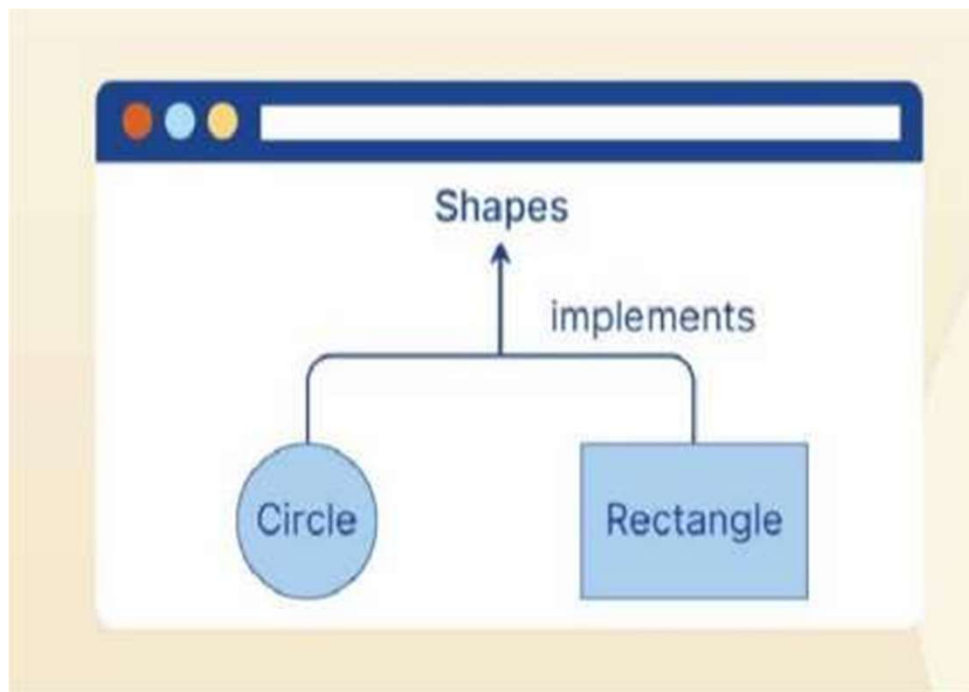
**Topic: Interface**

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Assistant Professor

# Interface

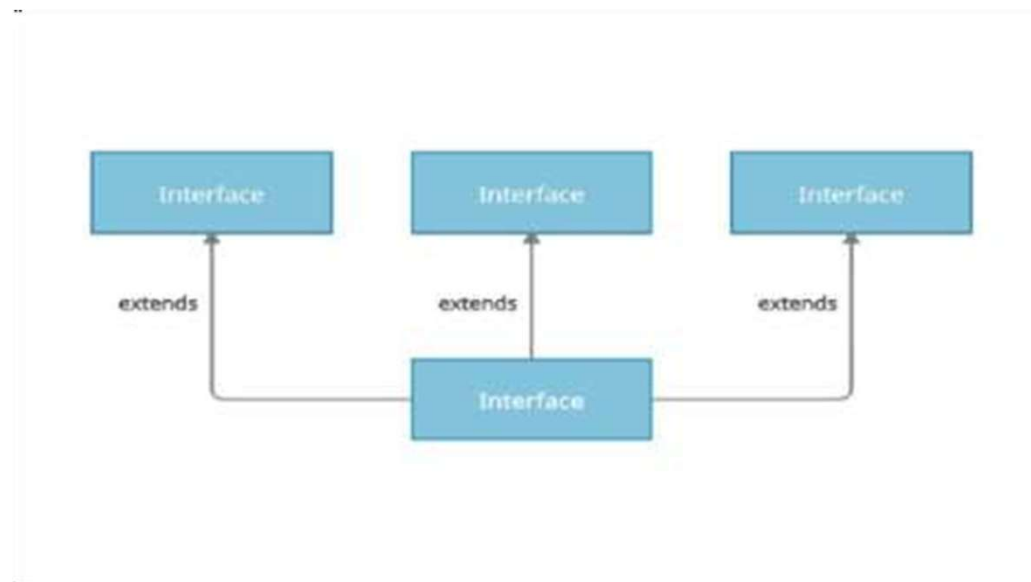
## *DT-Empathize*

- In the empathize stage, we understand that developers need a way to achieve abstraction and multiple inheritance in Java, which leads to the use of interfaces to define common behaviors that different classes can implement in their own way.



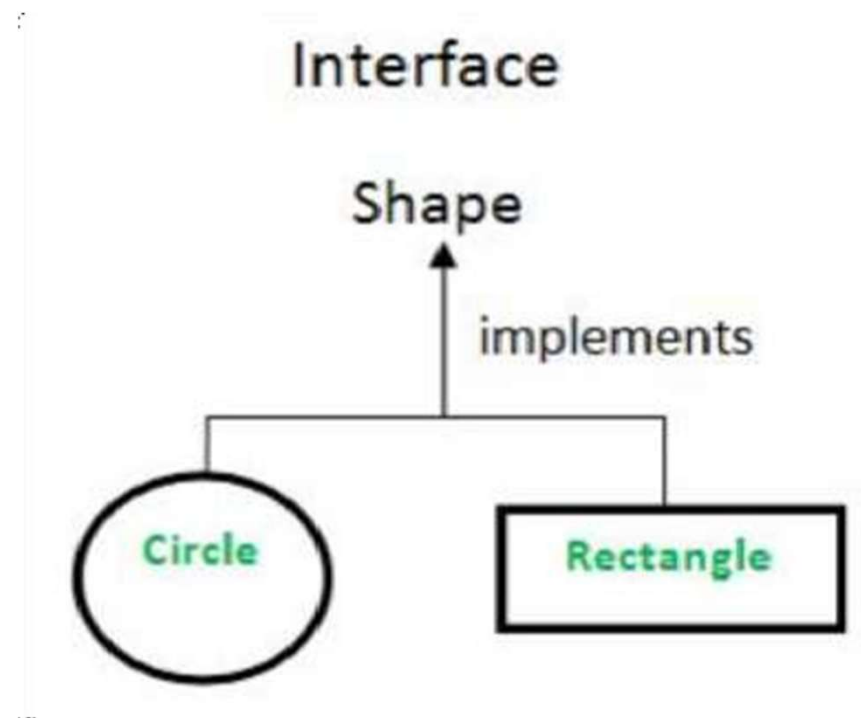
# Introduction

- Developers often face challenges in designing flexible and reusable code structures.
- Interfaces help address this need by allowing multiple classes to share common functionality while maintaining independent implementations.




# Definition

An interface in Java is a blueprint of a class that contains abstract methods and constants.




# Interface

What is an Interface in Java? berylsoft.co.in




- Pure abstract declaration.
- It a class type without concreteness.
- Subclass must implement all methods.
- Cannot create objects.



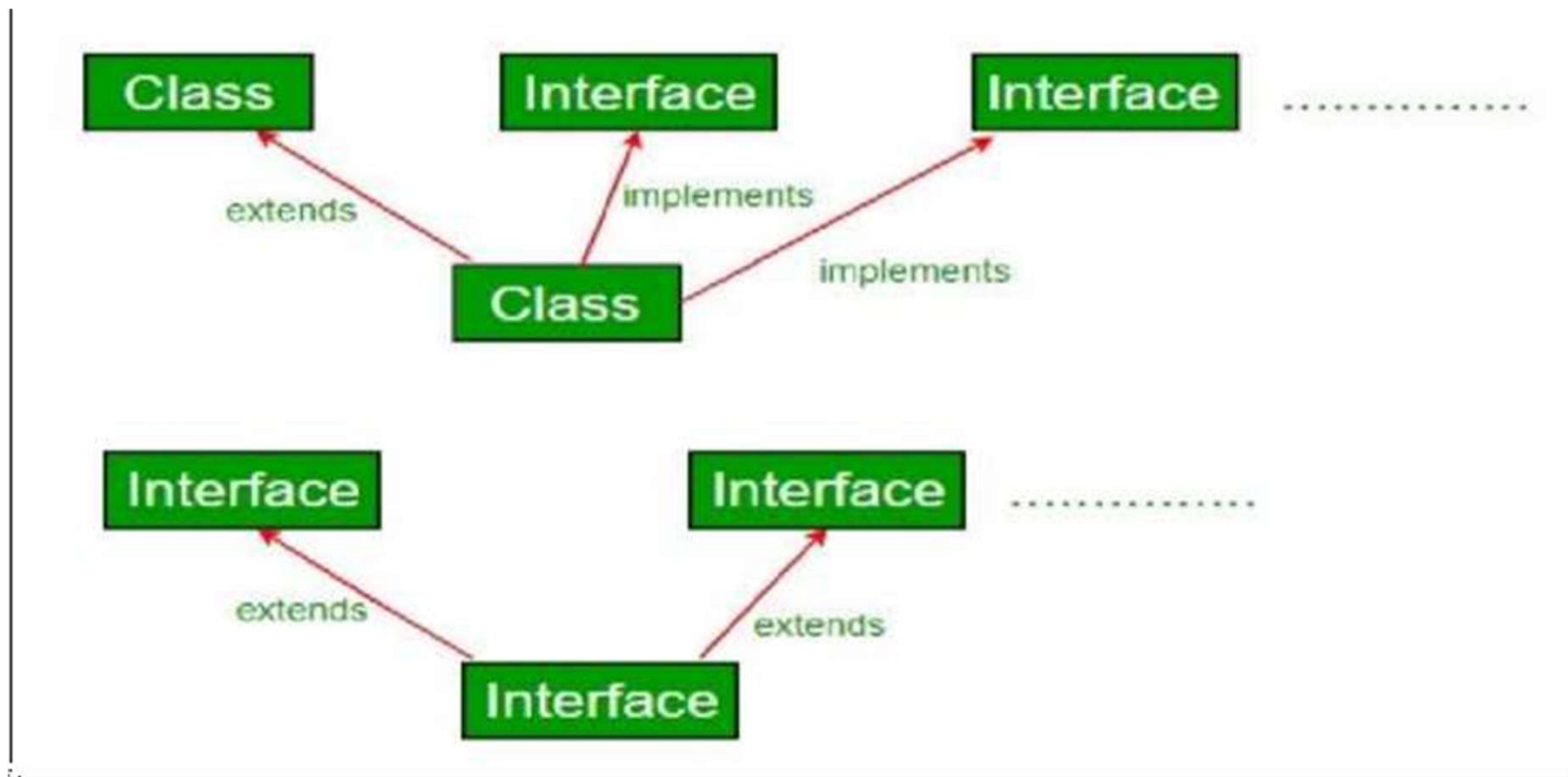
### Printer Example

```
interface {  
    Printable {  
        void print(Document d),  
    }  
    class HP_Printer implements Printable {  
        @@verize);  
        void print printing logic );  
    }  
},
```

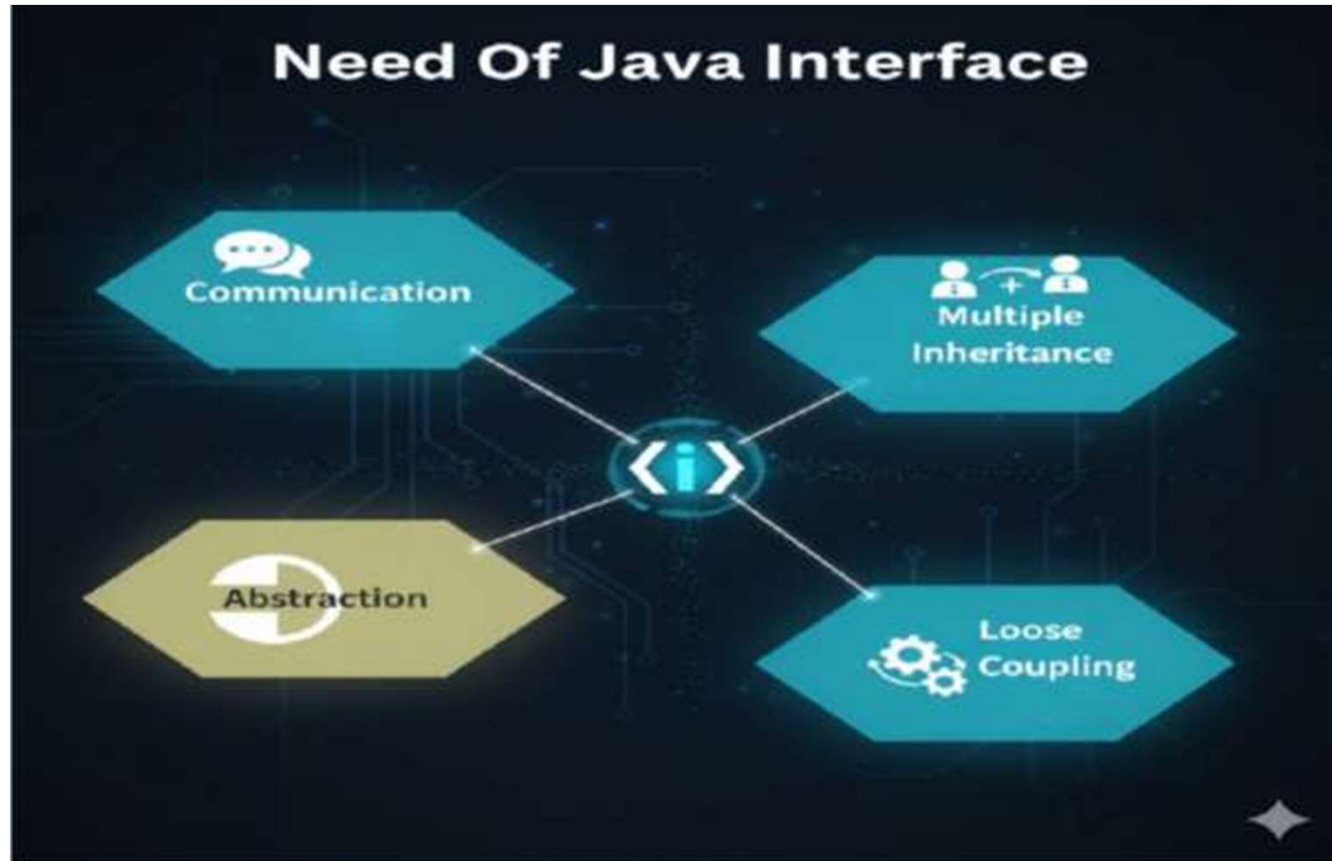


Ex: "Printable" interface, imple method implemented by "HP\_vendor of the printer.

# Key Concept



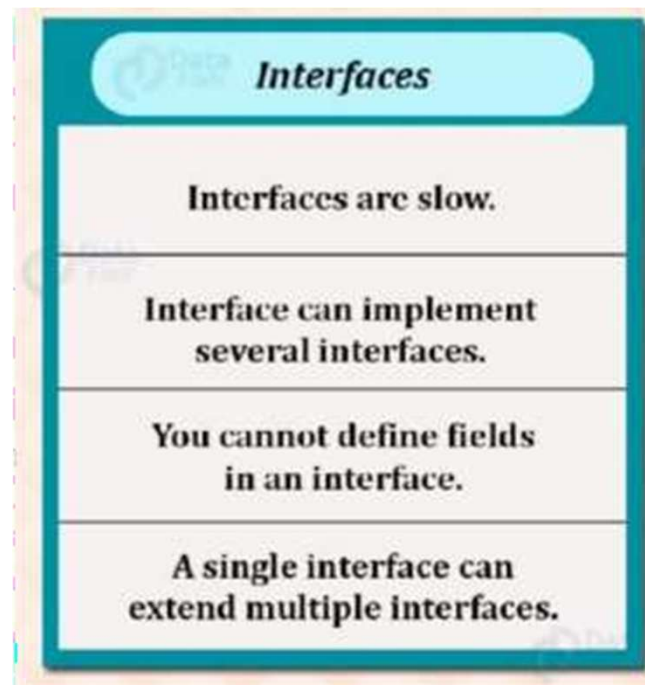
# Needs



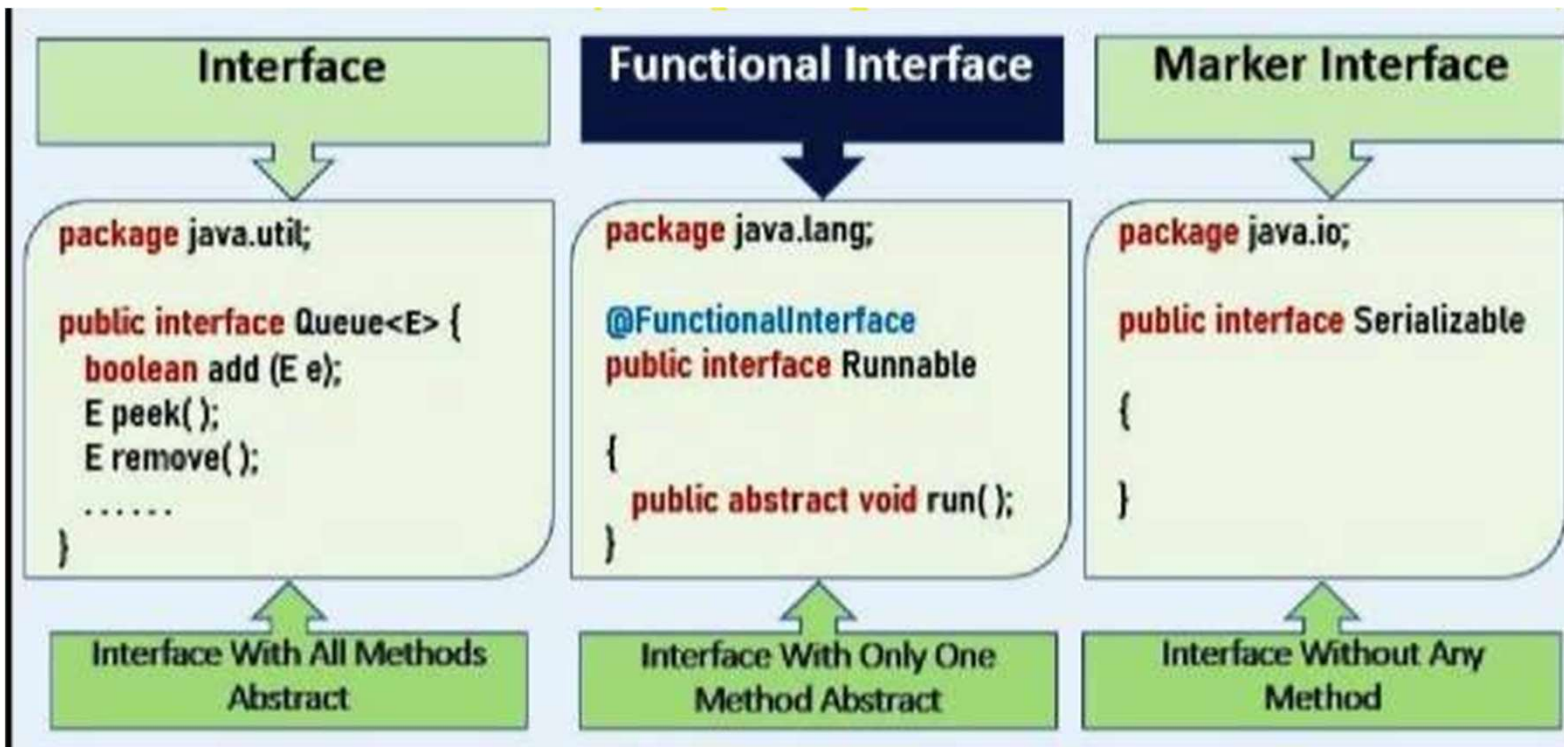
# Interface

## *DT-Define*

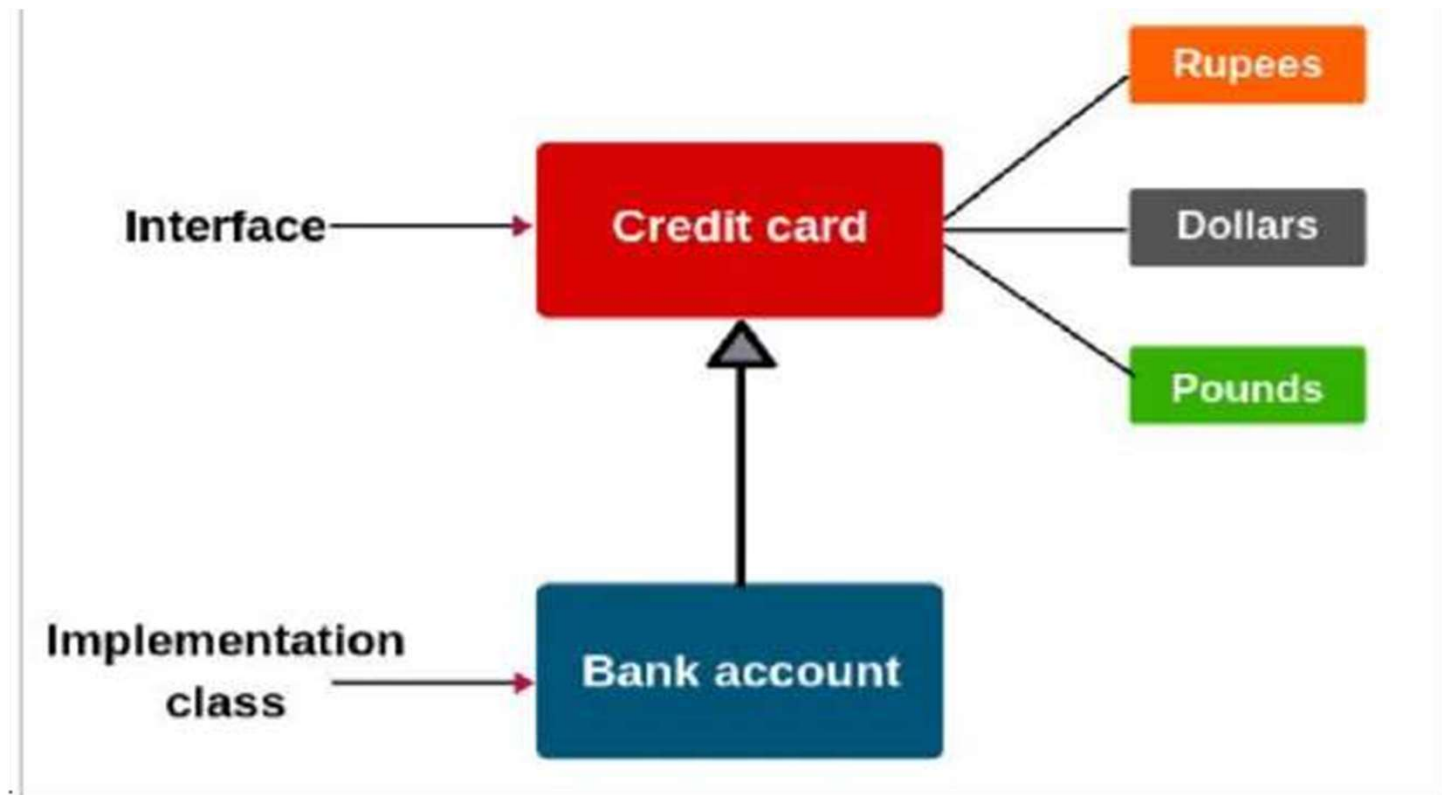
- An interface in Java is a collection of abstract methods that define a contract for classes to implement.
- Design a Java program using an interface to define a common behavior for different types of payment methods.



# Types of Interface



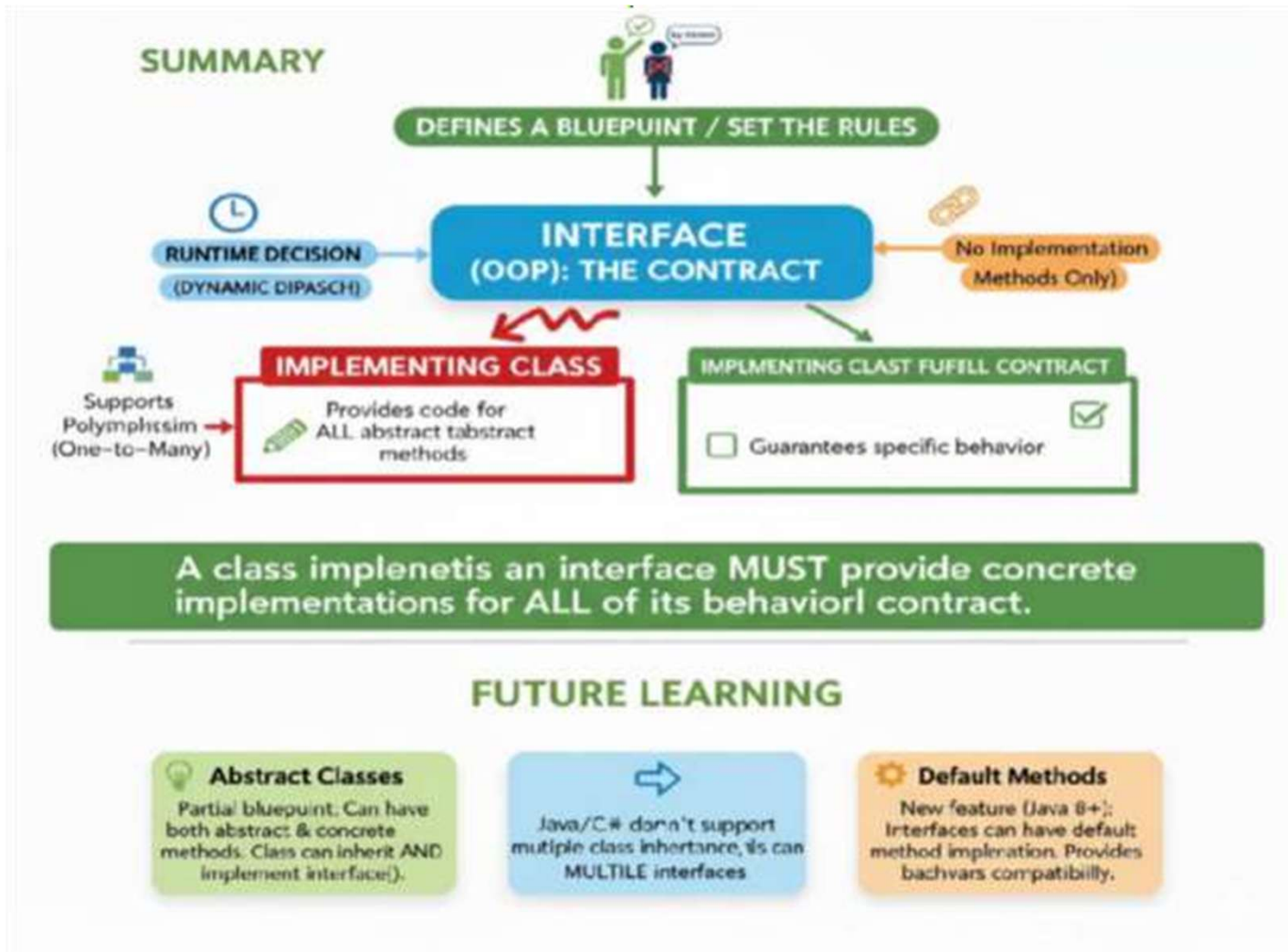
# Examples



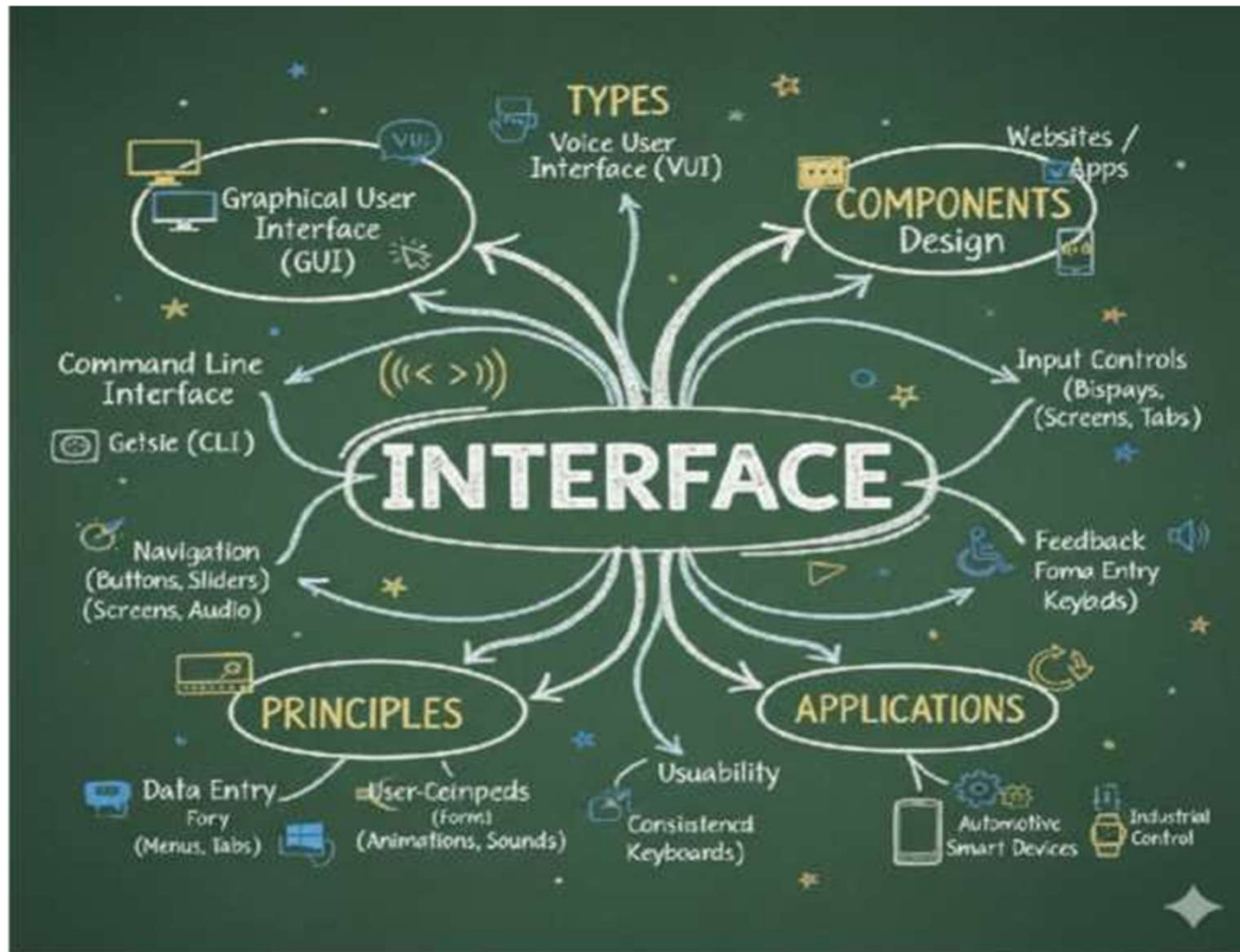
# Rules



# Summary



# Mind Map



# Question to solve

## THE SCENARIO

```
Interface  
CanFly  
void takeof()  
void land()  
}  
class Airplane impents Cany)  
}
```

## THE QUESTION

**Which methods must  
'Airplane' implement to fulfill  
'CanFly contract?**

# References



1. E. Balagurusamy, “Programming with Java – A Primer”, 6th Edition, McGraw Hill Education, New Delhi, 2017.
2. Paul Deitel and Harvey Deitel, “Java: How to Program”, 11th Edition, Pearson Education, 2017.