

# Advanced Classes and Interfaces

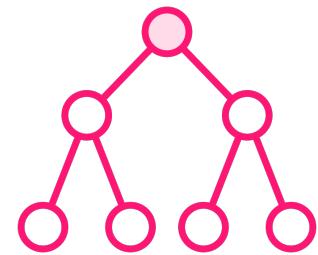


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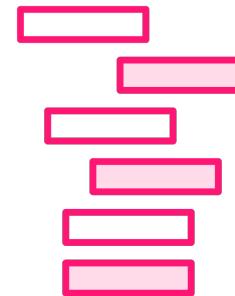
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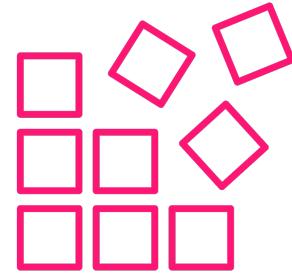
# This Module



**Nested types**



**Default, private and static methods in interfaces**



**Static and instance initializer blocks**



# Nested types

**Types (classes, interfaces, enums, records) that are defined in other places than directly inside a package.**



# Overview of Nested Types

**Static nested classes**

**Inner classes**

**Nested interfaces,  
records, enums**

**Local types**

**Anonymous classes**



# Practical examples vs the complete picture



# Nested Interfaces, Records and Enums



# Nested Classes Versus Other Nested Types

Static nested classes

Inner classes

Nested interfaces

Nested records

Nested enums

Implicitly static



# Nested Classes Versus Other Nested Types

Enclosing interface

Static nested class



Inner class

Nested interface

Nested record

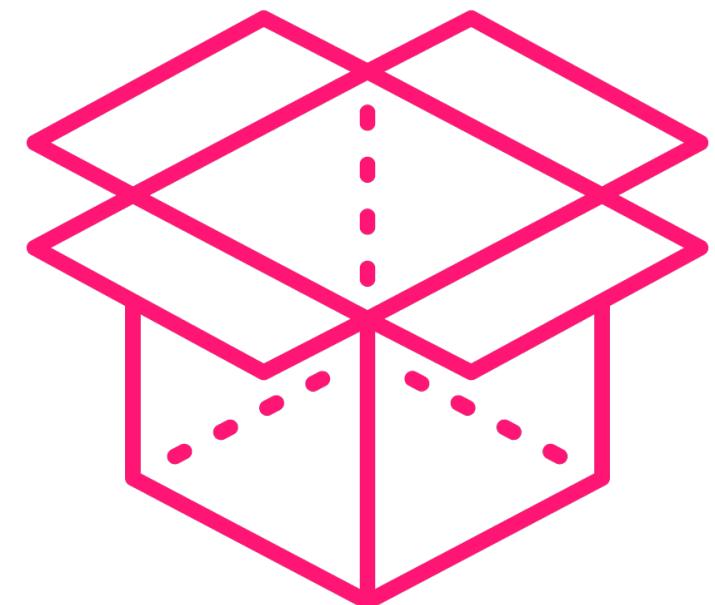
Nested enum



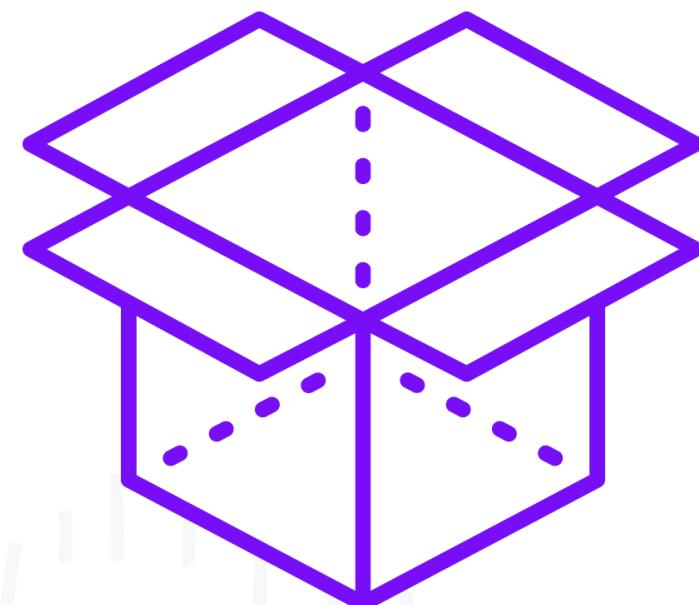
# | Default, Private and Static Methods in Interfaces



# Evolving Interfaces



**Version 1.0**



**Version 2.0**

**Choose:**

- 1. Break backward compatibility**
- 2. Don't modify interfaces**



# Default Methods in Interfaces

```
interface PriceCalculator {  
    BigDecimal calculatePrice(Order order);  
}
```



# Default Methods in Interfaces

```
interface PriceCalculator {  
    BigDecimal calculatePrice(Order order);  
    default BigDecimal calculateDiscount(Order order)  
}
```



# Default Methods in Interfaces

```
interface PriceCalculator {  
    BigDecimal calculatePrice(Order order);  
  
    default BigDecimal calculateDiscount(Order order) {  
        return BigDecimal.ZERO;  
    }  
}
```



# Interfaces Versus Abstract Classes

## Interface

**Define a common contract for implementing classes**

## Abstract class

**Provide a way to share implementation code**



# Private and Static Methods in Interfaces

## Private methods

Share code between  
default methods

## Static methods

The same as static methods  
in other types



# Summary



**Static nested classes**

**Inner classes**

**Nested interfaces, records and enums**

**Local classes**

**Anonymous classes**

**Default, private and static methods**

**Static and instance initializer blocks**



**Up Next:**

# **Advanced Generics**

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