
Australian
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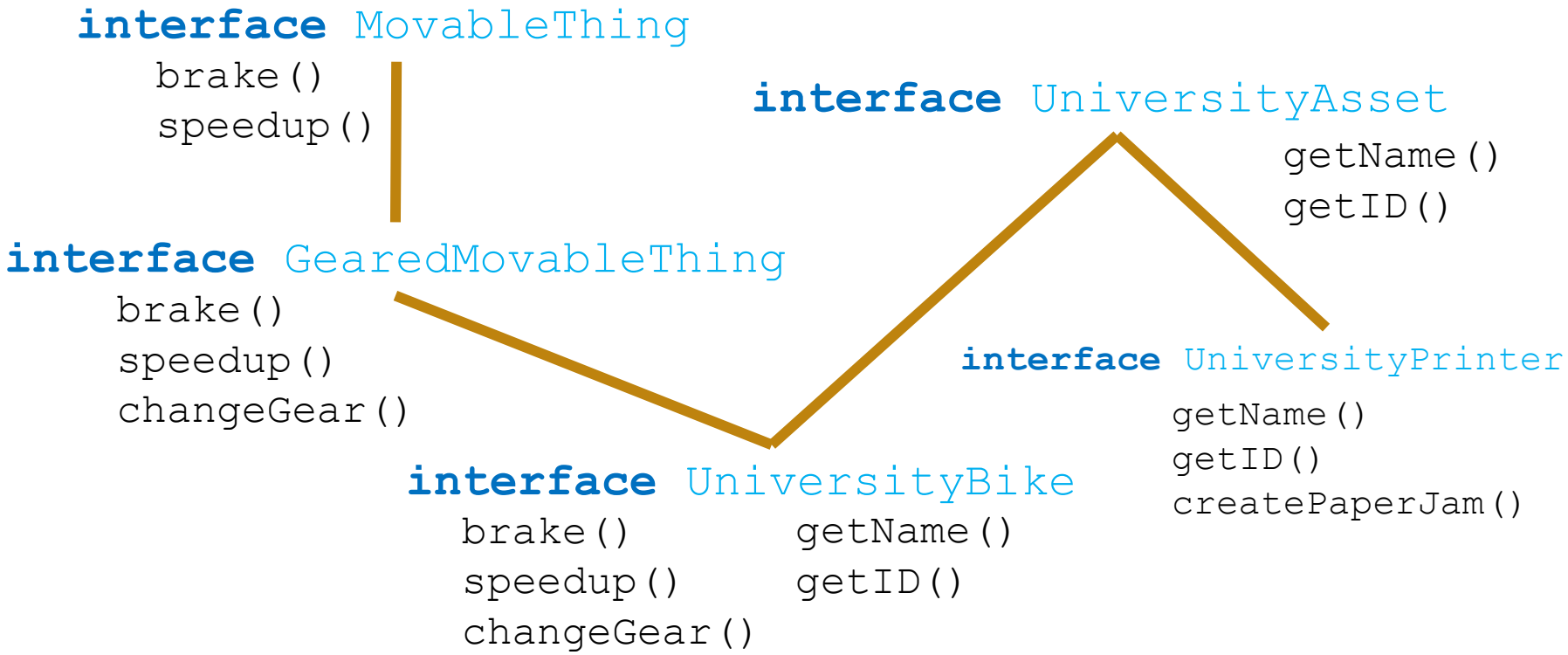
Interfaces
03
Structured Programming 1110/6710

Interface Hierarchy



Interfaces

Interfaces describe *behavior*

They are a *contract* that describes functionality that **must** be provided by anything *implementing* the Interface

Compared to classes, interfaces

- Use the `interface` keyword rather than class
- Cannot be instantiated (cannot be created with `new`)
- Can only contain constants, method signatures (not the bodies*), nested types (*Java 8+ allows `default` and `static` methods)
- Classes implement interfaces via the `implements` keyword

Key Java OO Concepts Overview

Types

Interface	Class	Object
Describes behavior, but not state	Blueprint, describes both state and behavior, including implementation	Concrete instance of a class, specific state
No implementation*		
Useful to guard your objects' internals - **"Encapsulation"**	May implement interfaces	A **"value"** in your program, like 5 or the String "Hello"

Interfaces as Types

Like classes, interfaces can be used as a type.

Variables declared with an interface type can hold references to objects of ***any class*** that implements that interface.

➔ You can rely on certain behavior even when you do not have an available implementation of it. Other code that implements the interface can seamlessly interact with your code.