enum: An Enumeration

Like saying class

- Can have fields
- Can have methods
- Can have constructors

- **BUT** all possible instances are declared up front
- **NO** public constructors allowed
  - You’ll never get to `new` one

`enum` will be a fixed set
Typical Uses

Create a fixed set of objects for modeling

States of a baby: no properties

- BState used by Baby
- BabyWithState has an **inner enum**
- Latter indicates enum isn’t meant for public use
- Irritating need to include BState or State for all enum values
- Note weird .class files after compiling BabyWithState

Cards in a deck

- Card in package cards
- Each card has a faceValue
- Enumerated values are all static field by default
- In CardDemo use a import static to alleviate this
Take-Home: Java has 4 Top-Level Kinds

**class**
- Run of the mill concrete objects
- Child classes extend

**enum**
- Like a class (fields methods) except...
- All instances declared up front, automatically static final
- Good for modeling fixed collections
- Cannot extend

**abstract class**
- Can’t instantiate but good for *single* inheritance hierarchies,
- Child classes extend

**interface**
- Can’t instantiate
- Good for capabilities that cutting across class hierarchies: savable, accessible, observable, comparable
- Child classes implement