Inheritance Basics

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http://www.pharo.org
Goal

- What is inheritance?
- When to use it?

Pharo treats inheritance the same way as Java
The Basics

- often we want small adaptations
- we want to extend existing behavior and state
- solution: **class inheritance**
- a class extends the definition of its superclass
a subclass

- can add state and behavior:
  - color, borderColor, ...
- can use superclass behavior and state
- can specialize and redefine superclass behavior
Root of Inheritance Hierarchy

- **Object** is the root of most classes
- **ProtoObject** (Object’s superclass) is for special purposes...
  - ...but we will ignore it as it is not important
The Basics

inheritance is

- static for state (i.e., during class creation)
- dynamic for behavior (i.e., during execution)
Inheritance of Instance Variables

- happens during class definition
- computed from
  - the class own instance variables
  - the ones of its superclasses
Inheritance of Behavior

- happens at runtime
- the method is searched
  - starting from the receiver’s class
  - then going to the superclass
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What You Should Know

- Inheritance allows a class to refine state and behavior
- A class has 1 and only 1 superclass
- A class eventually inherits from `Object`
- Inheritance of state is static
- Inheritance of behavior is dynamic