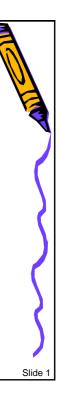
CSC 276 Object-oriented Software Design Day One

More OOD + OOP Topics

- · Inheritance & Polymorphism
- · Proper use of static
- · Interface & Abstract Class



Day One

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Inheritance & Polymorphism

- Inheritance
 - A class inherits behavior from another class

public class classC extends classP

- classP is parent or superclass; a more general concept
- classC is child or subclass; a more specific & related concept
- ullet classC inherits instance variables and methods from classP
- Protected Variables and Methods
 - Allow descendants of a class to access instance variables and methods
- Discuss demoInheritance.java
- · Polymorphism
 - Type of object is determined at run-time
 - Discuss demoPolymorphism.java

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Slide 2

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Proper use of static

- Java static keyword
 - Use to define a constant (i.e., final)
 - · Make public if you want code anywhere to access constant
 - · Make protected if you want descendants to access constant
 - · Otherwise, make private
 - Use to define a variable for the class
 - · This is called a class variable
 - i.e., it is NOT an instance variable
 - Only one value for this variable regardless of number of objects constructed
 - Use to define a method for the class
 - · This is called a class method
 - i.e., it it NOT associated with any object instance
 - Called using className.methodName(...)
 - · Can use static variables; cannot use instance variables

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Slide 3

Interface & Abstract Class

- Interface
 - A blueprint used by a class
 - May contain
 - · Static constants
 - · Method headers (i.e., abstract methods)
 - What's a method header?
 - » A method that has no implementation (i.e., block of code)
- Abstract Class
 - A class that cannot be used to construct an object!
 - May contain
 - · Abstract and concrete methods
 - · Class and instance variables
 - · Class and instance methods

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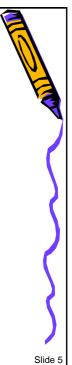
Slide 4



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Interface & Abstract Class

- Discuss
 - demoInterfaceCar.java
 - demoAbstractCar.java
 - demoUseInterfaceCar.java
 - demoUseAbstractCar.java



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