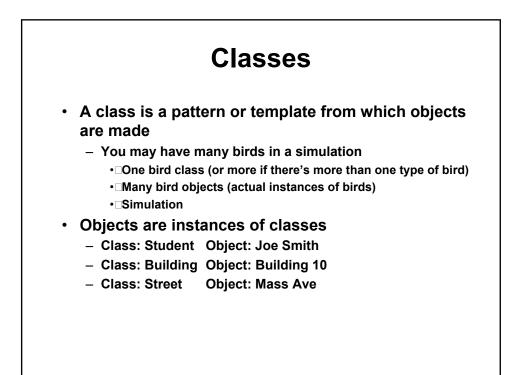
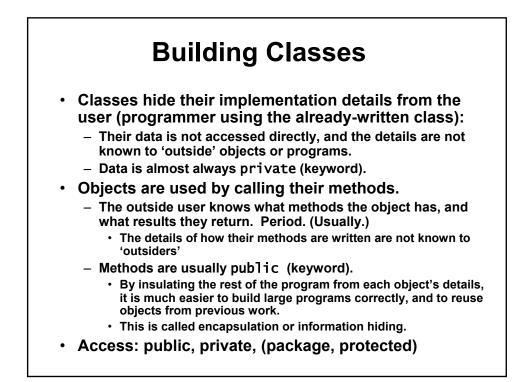
1.00 Lecture 7

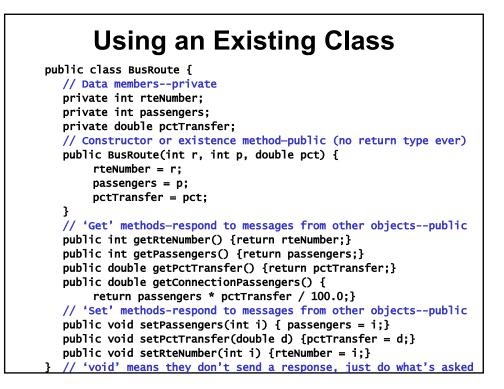
Java Classes and Objects

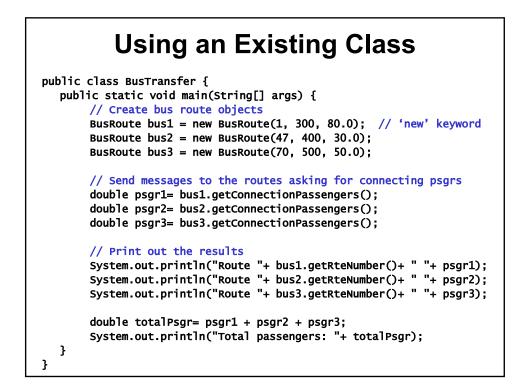
Reading for next time: Big Java: sections 2.6-2.11



Class Definition Classes contain: Data (members, fields) Simple data types, like int or double (e.g. bird weight) Objects (e.g. bird beak) Methods (functions, procedures) • Actions that an object can execute (e.g. bird flies/moves) Classes come from: - Java class libraries: JOptionPane, Array, Math, etc. There are several thousand classes (Javadoc) - Class libraries from other sources: Web, fellow students... Classes that you write yourself Classes are usually the nouns in a problem statement (e.g. bird) - Data members are also nouns (e.g., weight) Methods are usually the verbs (e.g. flies) •







Exercise, part 1

- Download BusRoute and BusTransfer
- In BusTransfer's main method:
 - Immediately after the three bus routes are created:
 - Get the number of passengers from routes 1 and 47
 - (You can just use the bus1 and bus2 objects directly; you don't have to figure out which routes are numbers 1 and 47)
 - Set these routes' passengers to be 100 more than the current level
- Save, compile and read with the debugger to make sure it's working correctly

Exercise, part 2 In BusRoute: ٠ - Add a variable connecting Time to the BusRoute class · Choose an appropriate data type for it Change the constructor • Add a fourth parameter (call it c) • Use c to set the value of connectingTime in the bus route • (Make the parameter name different than the variable name) Add 'set' and 'get' methods for connectingTime · Use the other 'set' and 'get' methods as a guide Save and compile BusRoute (not BusTransfer) ٠ - Eclipse will give you 3 error message saying your new constructor is undefined in BusTransfer. That's ok for now. - You can't run BusRoute to test it yet • You could write a main() method in BusRoute strictly as a test method. This is called 'unit test' to check each class in isolation.

Exercise, part 3

• In BusTransfer's main method:

-□Alter the 'new' statements to send another parameter

- Make the connectingTime 5 for rte 1, 10 for rte 47, 7 for rte 70
- Parameters must be sent in the order the constructor is expecting them

- Get the connectingTime from route 70 and print it

Do this right after the bus routes are created

• Save, compile and read it with the debugger