CMPT14x Semester Review

7 Dec 2005
CMPT14x
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Reminders:

- ***journals** in folder*
- ***Paper** due by midnight*

TRINITY WESTERN UNIVERSITY

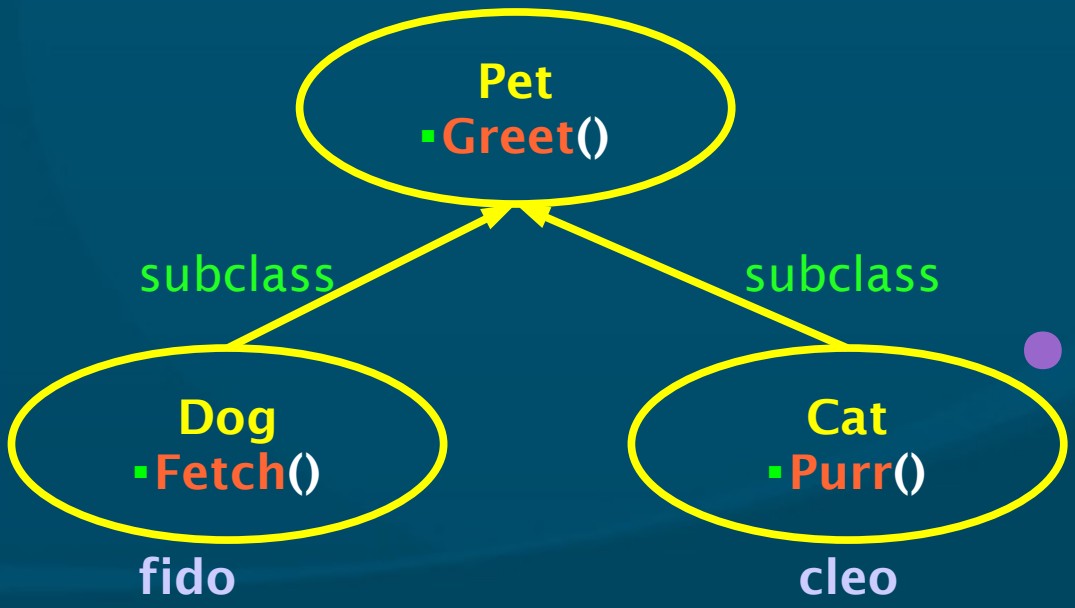
http://cmpt14x.seanho.com/

Course evaluations

- Large Scantron sheet:
  - Instructor's Name: Sean Ho
  - Course: CMPT145 or CMPT141
  - Date: 7 Dec 2005
  - INSTR. ID: 3514
  - COURSE ID:
    - CMPT145: 35014518
    - CMPT141: 35014101
- Small sheet for handwritten feedback
- Return envelopes upstairs to Cathy White

Inheritance

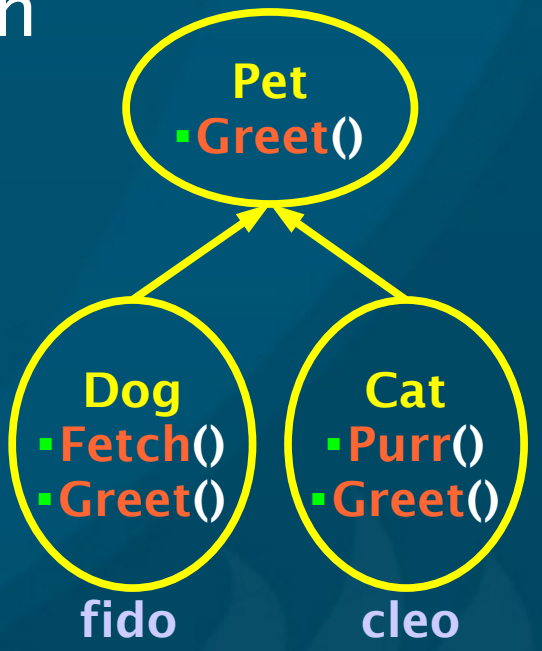
- Classes (object types) may also be derived from other classes
  - Subclasses inherit everything from parents
  - May also add their own methods/attributes
    - Both fido and cleo can Greet(), but cleo won't Fetch()



- Subclass vs. instance:
  - We say, "fido is a Dog", but
  - "A Dog is a kind of Pet"

Overriding and virtual functions

- A subclass can override a method in the parent class by redefining it
  - Parent's version is hidden
  - Parent is also called superclass
- In fact, the parent need not even have a body for the method:
  - Virtual function (or method)
  - Just declares the name and how to invoke
- Polymorphism: all Pets can Greet(), but Dogs Greet() differently from Cats



Summary of OO

- ADT-oriented rather than action-oriented
  - Everything is an object
- Encapsulate everything you need to use an ADT within its object class definition
- Action happens by passing messages to objects
  - Objects define interfaces: how to use
- Classes can inherit from other classes
  - And override and/or add to inherited stuff
- Keywords: object, procedural vs. OO, message, method, interface, attribute, instance, factory, class, inheriting, overriding, virtual function

Major concepts in CMPT14x

- Problem solving / design process
- Program elements:
  - Expressions, (;), IF, WHILE
- Program organization:
  - Procedures, modules, libraries, scope
- Data types: enums, arrays, records, sets
- Standard libraries: strings, I/O (streams)
- Termination, exceptions
- Dynamic data structures

Where to go from here?

- Now you know the concepts; learning C/Java/Python/etc. is mostly just learning syntax
  - C++: CMPT 160+165
  - Java: CMPT 160+167
  - Python: python.org
- Learn by example:
  - Find a small, well-written application and
  - Figure out how it works; read the code
- Learn by doing:
  - Modify/extend, or create your own app!

TODO items

- Paper due on tonight!
  - Paper copy: before I leave tonight at 5pm
  - Electronic copy via eCourses or email: by midnight tonight
- Final exam: Wed 14Dec 2-4pm here