

CS230 Example test questions – 3/4/2006

Alexei Drummond

True/False

1. A reference variable's type determines the classes of the objects the reference can point to. (**TRUE**)
2. A subclass inherits the instance variables and methods of its super class. (**TRUE**)
3. The default behaviour of the toString() method is to return a String object with the value equal to the fully qualified class name of the object followed by the '@' symbol and a hashcode. (**TRUE**)
4. Subclasses should generalize their super class. (**FALSE** – they should specialize them!)
5. Reference variables can be polymorphic. (**TRUE**)
6. In general it is not possible to know at compile time which class' method will be executed when a call is made using a reference variable. (**TRUE**)
7. Downcasting allows you to access methods of an object's class when the original reference variable is a superclass. (**TRUE**)

Short answer questions:

1. How many test cases should you write when testing a new class? Justify your answer.

There is no specific number of test cases that should be written as the number of state and behaviour combinations can be arbitrarily large for a given design. However each intended behaviour (method) of the class should be tested, preferably from a variety of states. Finally, identifying equivalence classes and boundary cases can also assist in directing testing assuming the programmer has been relatively sane in their implementation.

2. What type of method(s) cannot be overridden?

Static methods (as well as final methods and private methods) can't be overridden.

3. Name three things that a subclass can do with a method inherited from a super class.

- (a) use the super-class method implementation via inheritance
- (b) override the super-class method
- (c) extend the super-class method

Also check <http://www.cs.auckland.ac.nz/compsci230s2t/exams/> for examples from last year...