

Name \_\_\_\_\_

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## SE 2AA4 Winter 2007

### Quiz 7 Answer Key

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You have 10 minutes to complete this quiz consisting of 2 pages and 5 questions. You may *not* use your notes and textbooks, nor may you use any calculators or other electronic devices. Circle the *best* answer for the multiple choice questions, and write the answer in the space provided for the other questions. Good luck!

(1) [4 pts.] Suppose  $A$  is a class,  $B$  is a subclass of  $A$ , and  $O$  is the value of a variable of type  $A$ . Then

- (a)  $O$  is an instance of  $A$  but not  $B$ .
- (b)  $O$  is an instance of  $B$  but not  $A$ .
- (c)  $O$  is an instance of both  $A$  and  $B$ .
- (d)  $O$  is an instance of  $A$  and possibly, but not necessarily, an instance of  $B$ .
- (e)  $O$  is an instance of  $B$  and possibly, but not necessarily, an instance of  $A$ .

(2) [4 pts.] A Java interface can be

- (a) Instantiated by an object.
- (b) Extended by another interface.
- (c) Implemented by a class.
- (d) All of the above.

(3) [4 pts.] A Java exception like the `EmptyStackException` is

- (a) An object that can be “thrown” and “caught”.
- (b) An “exceptional output” of a method whose type is usually different from the method’s return type.
- (c) An instance of the `Exception` class.
- (d) All of the above.

(4) [4 pts.] Which of the following methods from the Java Stack2 example throws an exception?

- (a) `push`.
- (b) `pop`.
- (c) `reset`.
- (d) All of the above.

(5) [4 pts.] Write a Java interface named `OrderedElement` for classes whose objects are (linearly) ordered. The interface should include declarations for the following methods:

- (a) A `precedes` method that checks whether the method's object is less than or equal to another `OrderedElement` object.
- (b) A `toString` method that returns a `String` representation of the method's object.

You do not need to include any comments in your code.

**Answer:**

```
public interface OrderedElement {  
  
    public boolean precedes(OrderedElement e);  
  
    public String toString();  
  
}
```