

# **York University**

**Department of Computer Science and Engineering  
CSE 1030 A Summer 2013 – Midterm Exam (ver. A)**

**Part A: True or False**

For each statement below, circle “T” if you believe the statement to be true, circle “F” if you believe it to be false. Correct answers score 1 mark, blank and wrong answers score 0.

1.    T      F      In Java reference type parameters (e.g., `String`) are passed by reference.

False (Creating\_a\_Utility\_Class.pdf, slide 37)

2.    .

True (Creating\_a\_Utility\_Class.pdf, slide 37)

3.    .

True (Creating\_a\_Class\_Beyond\_the\_Basics\_1.pdf, slide 15)

4.    .

False (e.g., `Math.abs()`)

5.    .

False (Strings are immutable)

6.    .

False (Creating\_an\_Immutable\_Class.pdf, slides 5-9)

7.    .

False (using `final` prevents it from being overridden)

8.    .

False (can have same name, but different signature)

9.    .

False (Implementing\_Inheritance\_2.pdf, slide 28)

10. .

True (Implementing\_Inheritance\_2.pdf, slide 29)

**Part B: Fill-in the Blanks**

Complete each statement below with a single word or command. Correct answers score 1 mark, blank and wrong answers score 0.

1. The Linux terminal command to rename a file or a directory is \_\_\_\_\_.

*mv (see GuidedTourV3.1.pdf, "Simple Terminal Commands")*

2. .

*cd (see GuidedTourV3.1.pdf, "Simple Terminal Commands")*

3. .

*ls (see GuidedTourV3.1.pdf, "Simple Terminal Commands")*

4. .

*static (Creating\_a\_Utility\_Class.pdf, slide 27)*

5. .

*Comparable (Creating\_a\_Class\_Beyond\_the\_Basics\_1.pdf, slide 2)*

6. .

*super (but I will also accept "extends")*

7. .

*one (Mixing\_Static\_and\_Non\_Static\_Features.pdf, slide 11)*

8. .

*zero (Implementing\_Inheritance\_2.pdf, slide 30)*

9. .

*final (Creating\_an\_Immutable\_Class.pdf, slide 7)*

10. .

*private (Creating\_a\_Utility\_Class.pdf, slide 23)*

***Part C: Short Answer***

1. [4 Points]

Overloading: could be in same class (1 mark), same name (1 mark)

Overriding: must be in subclass (1 mark), same signature (1 mark)

2. [6 Points]

(2 marks each):

Less code to write

Less code to test

Single source of error to correct

3. [6 Points]

- (2 marks) position in the hash table is based on object's hash code when inserted
- (2 marks) changing object's state will change its hash code, but not its position in table
- (2 marks) attempts to find object using its new hash code will likely fail

4. [4 Points] .

- (2 marks) The implementer retains ownership and control of the copy
- (2 marks) Subsequent changes to the original object are not reflected in the copy

5. [5 Points]

Is immutability property broken? Why or why not? If so, how can it be fixed?

(1 mark) Yes

(2 marks) Although final, the state of “date” can still be changed by client

(2 marks) Make return a copy of the date object instead

(e.g., return new Date(date.getTime());)

(Creating\_a\_Utility\_Class.pdf, slide 21)

6. [5 Points]

(1 mark) No

(4 marks) The terms are contradictory

Or

“abstract” means that it must be overridden, but “final” means that cannot be overridden