Name _____

Student number _____

CS 2SC3 and SE 2S03 Fall 2008

Quiz 5 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) [2 pt.] After the OCaml code

```
let x = ref "a" ;;
let y = ref "a" ;;
```

is executed, which of the following OCaml expressions evaluates to `false`.

  (a) `x = y`
  (b) `x == y`
  (c) `!x = !y`
  (d) `!x = !(ref "a")`

(2) [2 pt.] After the C code

```
int x = 17;
int y = 17;
```

is executed, which of the following C expressions evaluates to `false`.

  (a) `x = y;`
  (b) `x == y`
  (c) `&x == &y`
  (d) `x <= 17`

Quiz continues on next page.   **1/2**

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(3) [2 pt.] Suppose that the OCaml variable `x` is bound to a reference of type `int`. Write a piece of OCaml code that sets the referenced value to itself plus 200.

Answer: `x := !x + 200 ;;`

(4) [2 pt.] Suppose that the C variable `x` is bound to a reference of type `int`. Write a piece of C code that sets the referenced value to itself plus 200.

Answer: `x = x + 200;`

(5) [2 pt.] List the three main kinds of operators that data structures have.

Answer:

(a) Constructors.

(b) Selectors.

(c) Mutators.