**Name** _____

**Student number** _____

# CS 2SC3 and SE 2S03 Fall 2008

## Quiz 7

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You have 10 minutes to complete this quiz consisting of 2 pages and 6 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) [1 pt.] A stack can be implemented using just a queue? Is this statement true or false?

(a) True.
(b) False.

(2) [1 pt.] A queue can be implemented using just a stack? Is this statement true or false?

(a) True.
(b) False.

(3) [2 pts.] In C, what evaluation strategy is used to evaluate macros?

(a) Call by value.
(b) Call by reference.
(c) Call by name.
(d) Call by pointer.

(4) [2 pts.] Which of the following statements is not true?

(a) Call by reference offers wider access to values than call by value.
(b) In C, call by reference can be simulated using pointers.
(c) C-style call by value is more time- and space-efficient than call by reference.
(d) In OCaml, call by reference is used internally to bind variables to values.

**Quiz continues on next page.** 

(5) [2 pts.] Suppose the following statements are in a piece of C code:

```
float x[7] = {.1,.2,.3,.4,.5,.6,.7};
float * p;
p = x;
```

Then which of the following expressions would evaluate to false?

(a) `p + 3 == x[3]`

(b) `*p == .1`

(c) `p[3] == x[3]`

(d) `p == &x[0]`

(6) [2 pts.] In programming, what is a buffer overflow? Answer in one or two sentences.

**Answer**: A buffer overflow is an access to an array (or similar data structure) outside of its boundaries. A buffer overflow can cause various kinds of unexpected program behavior including program crashes and security breaches.

**Quiz ends here.** 