

CSI 202 – Computer Science II – Spring 2009
Review Sheet #1

1. Structs

- (a) creating a new type
- (b) using structs
- (c) dot operator
- (d) arrow operator

2. Pointers

- (a) declaration
- (b) dereference
- (c) address-of operator
- (d) single objects vs. arrays
- (e) new
- (f) delete
- (g) the arrow operator
- (h) problems with pointers and dynamic memory
 - i. stale pointers
 - ii. garbage
 - iii. double delete
 - iv. concerns with functions

3. Memory Diagrams

- (a) Stack vs Heap
- (b) Variables
- (c) Globals
- (d) Function Stack
- (e) Dynamic Memory Heap

4. Arrays
 - (a) Arrays as pointers
 - (b) Call-by-value
 - (c) Dynamic
 - (d) Static
 - (e) Heap
 - (f) Stack
5. Linked Lists
 - (a) Using, output, step through, search, remove, add
 - (b) Structs, Node
 - (c) Doubly linked lists
 - (d) Specialized boss/head node
 - (e) Memory usage
 - (f) Comparison to arrays
6. What is the “output” of code
7. Find the compilation errors in code
8. Which of the following expressions is syntactically valid?
9. integer vs floating point arithmetic
10. Scope of a Variable, “lifetime” of a variable
11. Boolean Expressions, Short-circuit Boolean Evaluation
12. explicit type-cast vs implicit type-cast
13. Functions, Call-by-value vs. Call-by-reference