

Chapter 6 and 7 Homework

CSCI-400 Spring 2013

- 1) What is meant by a “dangling pointer” and what options are available to the language designer to deal with it?
- 2) What is a “memory leak” and what options are available to the language designer to deal with it?
- 3) What does it mean if the operands of an operator are of “compatible” types?
- 4) Describe the reference counter approach to garbage collection. What are the advantages and disadvantages?
- 5) Describe the mark/sweep approach to garbage collection.
- 6) What is meant if a language is said to exhibit “guaranteed short circuiting”?
- 7) What is a “widening” conversion and what is a “narrowing” conversion?
- 8) What are “functional side effects” and why do most languages permit them, despite the loss of referential transparency that typically results?
- 9) In languages such as C, C++, Perl, and JavaScript, the assignment operation is also an expression. What does this mean and what are the advantages and disadvantages of it?
- 10) What does it mean to “dereference” a pointer and under what conditions can doing so be unsafe, even if no write operation is being performed?

SUBMISSION

Name your pdf file **CS400_UserID_HW_nn** where **nn** is the homework number.

GRADING RUBRIC – 40 pts

- 10 - Good Faith effort (1pt per problem).**
- 30 - Quality and Correctness (3pts per problem)**
- 10 - Improper submission.**