

CS 304: Programming Languages

Assignment 7

Nov 28st, 2012

Due: December 5th, 2012 before the beginning of the class period

1. (2 pts.) Assume the following rules of associativity and precedence for expressions:

Precedence:

Highest:

*, /, not

+, -, &, mod

- (unary)

=, /, <, <=, >, >=

and

or, xor

Lowest:

Associativity: Left-to-right

- a) (1 pts.) Show the order of evaluation of the following expressions by parenthesizing all subexpressions and placing a superscript on the right parenthesis to indicate order. For example, for the expression

$a + b * c + d$,

the order of evaluation would be represented as $((a + (b * c)^1)^2 + d)^3$

i) $a * (b - 1) / c \text{ mod } d$

ii) $(a - b) / c \& (d * e / a - 3)$

iii) $a > b \text{ xor } c \text{ or } d \leq 17$

- b) (1 pts.) Write a BNF description of the precedence and associativity rules defined for the expressions i) and iii) from part 1. Assume the only operands are the names a, b, c, d, and e.

The following exercises are from your textbook:

2. (2 pts) Chapter 7 Problem Set, Problems 13 and 15.
3. (1 pt) Chapter 7 Programming Exercise 9.
4. (4 pts) Chapter 8 Problem Set, Problems 1, 9, 10, 13.
5. (1 pt) Chapter 8 Programming Exercise 4.

Turn In Procedures:

You may turn in your assignment via email (bkerkez@yahoo.com) or in person: on paper or on any computer media. If you wish to turn in your assignment via email, your file name should be in the format

lastName_FirstName_AssignmentX.xxx

For example, John Smith's assignment 7 turn in file would be named "Smith_John_Assignment7.xxx".

If you chose to turn in your assignment via email, please make sure that the subject of the email message reads "**CS304_Assignment**". Please print a paper copy of your assignment and turn it in as well.

Please make sure that I receive your assignments before the due date and time. Late assignments will be accepted for 24 hours after they are due and will be penalized by a 50% deduction. No assignments will be accepted after the 24 hour period expires.