

Department of Computer Science
University of Houston
COSC 6352 - Programming Languages and Paradigms
Fall 08, Exercise Set – 1, Due Oct. 3 at 4pm.

1. Read the paper by P. Wegner on History of Programming Languages and in not more than a page summarize the parts of the paper not discussed in class.
2. Define the terms semantics and store. Explain briefly the axiomatic approach to semantics and the inference rule for the while loop (refer to any text for the inference rule). Page limit - 1 page
3. For this exercise choose only one language from C/Pascal. Construct a single program that determines the order of (a) assignments (i.e. whether L is evaluated first or R in $L = R$), (b) actual parameters of invocations, and (c) the order of evaluation of $E_1 + E_2$. Explain briefly how your program outputs determine the order of evaluation. For part (b) also determine when the actual parameters are evaluated. Execute your programs and turn in the results of the execution also. Next find a manual for the language you have chosen and determine: (a) whether the orders are stated in the manual (state the title and authors for the manual you found) and (b) whether your results are consistent with what is stated in the manual. Higher points will be awarded to shorter and simpler solutions. In particular, your program should not exceed more than 25 lines of code.
4. Construct a single program in C or Pascal-like syntax (ignore the syntax rules for parameter passing of these languages) with no pointers that contains a single procedure and exactly one procedure call, which outputs different results when the formal parameters are passed by value-result versus when they are passed by name. Higher points will be given for shorter and simpler solutions. Your program should not be more than 15 lines of code. Briefly explain the output.