CSCE 330 Spring 2003

HOMEWORK 4

Assigned Monday, 20030224. Due Friday, 20030228

1. (This exercise was in Midterm 1) The grammar of the original definition of Algol 60 contained the following production rules:
`<statement> -> <conditional-statement> | begin <statement> end`
`<conditional-statement> -> if <condition> then <statement>`
`| if <condition> then <statement> else <statement>`
Show that any grammar containing these production rules is ambiguous.

2. Discuss how the dangling else problem, described in the previous exercise was resolved

   (a) in later definitions of Algol 60
   (b) in Pascal
   (c) in Algol 68
   (d) in C
   (e) in Ada
   (f) in Modula 2
   (g) in C++
   (h) in Java
   (i) in Fortran 90
   (j) in a scripting language of your choice

   Make up a simple example and present it in all of these languages. Give a complete reference to the scripting language solution.