CMSC330 Spring 2014 Practice Problems 9

1. Operational semantics

   Use operational semantics to determine the values of the following OCaml codes:

   a. 1
   b. 3 + 7
   c. 1 + (2 + 3)
   d. (fun x → 4) 5
   e. (fun x → x + 6) 7
   f. (fun x → (fun y → y + x)) 8 9
   g. let x = 5 in let y = 7 in x+y
   h. let x = let x = 5 in x+2 in x+4
   i. let f = fun x → x+5 in f 7
   j. let y = 5 in let f = fun x → x+y in let y = 6 in f 7 (for static scoping)
   k. let y = 5 in let f = fun x → x+y in let y = 6 in f 7 (for dynamic scoping)

2. Programming languages

   a. Describe 2 differences between HTML and XML.
   b. Describe the difference between query languages and programming languages.

3. Markup languages

   a. Creating your own XML tags, write an XML document that organizes the following information: 1-hour test on Spanish Monday in Jiménez worth 15%. 1-hour test on Computers Tuesday in CSIC worth 10%. 30-minute test on Computers Friday in AVW worth 5%.