CSCE 330 Fall 2011
Homework 1

1. The following 4 questions relate to Brian Hayes's "The Semicolon Wars," *American Scientist*, July-August 2006, pp.299-303, and available on-line at `http://www.americanscientist.org/issues/pub/the-semicolon-wars/1`; a local copy is also available on the course website.

   (a) Give three examples of what Hayes calls "feuds" in programming languages.

   (b) What day is `Date(2006,1,1)` in Java? (Note: The Date three-argument constructor is deprecated and should not be used.)

   (c) Do comments in the `/* ... */` style nest in C? (This may require a little search outside the paper!)

   (d) Which one is older: BASIC or Lisp?

2. This list of questions is from Robert Sebesta's textbook. Please indicate the source of your answer (e.g., a web site, a book, an article, class notes) with each question.

   (a) In what year was the Plankalkuel designed? In what year was that design published?

   (b) What two common data structures were included in Plankalkuel?

   (c) How were the pseudecodes of the early 1950s implemented?

   (d) Speedcoding was invented to overcome two significant shortcomings of the computer hardware of the early 1950s. What were these two?

   (e) Which IBM computer introduced floating point arithmetic and indexing?

(f) In what year was the Fortran design project begun?

(g) What was the primary application area of computers at the time Fortran was designed?

(h) Where was LISP developed? By whom?

(i) Which dialect of LISP was used for introductory programming courses at MIT until 2008?

(j) What two professional organizations together designed ALGOL 60?

(k) In what version of ALGOL did block structure appear?

(l) What organization was most responsible for the early success of COBOL (in terms of extent of use)?

(m) What design criterion was used extensively in ALGOL 68?

(n) What are the concurrent program units of Ada called?

3. Recall that computer architecture is a major influence on programming languages, and "[most] programming languages can be viewed as abstractions of an underlying von Neumann architecture" [G&J, p.8]. Why the von Neumann architecture? Also, comment on the following statement, which Patterson and Hennessy label "a fallacy": "Computers have been built in the same, old-fashioned way for too long, and this antiquated model of computation is running out of steam." (Reference: Patterson, David A. and John L. Hennessy. *Computer Organization and Design*, p.29. Morgan Kaufmann, 1998.)