

Problem	1	2	Total
Points:	16	24	40
Score:			

**This homework assignment has 2 problems, for a total of 40 points.**

1. (16 points) Of the following statements, identify all that hold about XPath. (Below, E is an arbitrary XPath expression; i and j are positive integers.)
  - A. The text() function extracts the first text node under the current element
  - B. If  $i \neq j$ , we never have  $E[i][j]=E[j][i]$
  - C. The only cases where  $E[i][j] = E[i]$  are when  $i=j=1$
  - D. Assuming E does *not* evaluate to (), E/foo is never equal to E[foo]
  - E. XPath doesn't include recursive queries
  - F. The query `let $x := 1 return (2)[1]` produces a result of 2
  - G. In XPath, \* abbreviates node()
  - H.  $E[@lg]$  selects members of E for which attribute @lg is defined and is not equal to the empty string
2. (24 points) Of the following statements, identify all that hold about XQuery. (Below, Set and Pred are functions and \$x and \$v are variables.)
  - A. Using no axes other than parent and child, we can write an XQuery function that would compute the *ancestors* of its argument element
  - B. The order of evaluation of bindings in XQuery's some and every clauses is implementation-dependent
  - C. XQuery will become a candidate recommendation of the W3C in 2008
  - D. If every \$x in Set(\$v) satisfies Pred(\$x,\$v) then some \$x in Set(\$v) satisfies Pred(\$x,\$v)
  - E. The Effective Boolean Value of a proper negative fraction such as -0.5 is true
  - F. The Effective Boolean Value of a string containing a proper negative fraction such as "-0.5" is neither true nor false
  - G. An easy way to swap values of \$x and \$y is `let $x := $y` followed immediately by `let $y := $x`
  - H. Consider a let clause with multiple variables. In such a clause, a positional variable (as in at \$pos) refers to the position of each variable being assigned
  - I. The snippet 5 is a valid XQuery query even though it is not an XML document
  - J. The snippet `<foo>5</bar>` is a valid XQuery query even though it is not an XML document
  - K. If you ever see \$x in an XQuery query, and the \$x is not placed within quotes, then the \$x is a variable
  - L. An executable XQuery query cannot contain any free variable