

Problem	1	2	3	Total
Points:	4	12	20	36
Score:				

**This homework assignment has 3 problems, for a total of 36 points.**

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1. (4 points) List four of the metaphors for handling XML (one word each).
  
  
  
  
  
  
  
  
  
  
2. (12 points) Of the following statements, identify all that hold about XPath.
  - A. XPath borrows the basic primitives of common filesystems, specifically, parent, child, and symbolic link
  - B. We can simulate the effect of the preceding-sibling axis via a combination of the preceding, parent, and child axes (and no other axis)
  - C. The Effective Boolean Value of a node set that contains the empty string is true
  - D. For any expression that yields a node set of up to one member, appending [1] is a noop
  - E. The smallest value possible for last() is zero
  - F. Given an arbitrary XPath expression,  $E$  and positive integers  $i$  and  $j$  where  $i \leq j$ , we always have  $E[j][i] = E[i]$
  
  
  
  
  
  
  
  
  
  
3. (20 points) Of the following statements, identify all that hold about XQuery. (Below, Set and Pred are functions and \$x and \$v are variables.)
  - A. XQuery forces us to hardcode the names of the elements to be output in the result of a query
  - B. The XQuery syntax doesn't limit how many for and let clauses we have in one FLWOR expression, as long as we have at least one
  - C. The snippet `let $x := $x[1]` is acceptable; it shows how the value of \$x may be modified
  - D. In XQuery, attribute can occur within element
  - E. In XQuery, element can occur within element
  - F. In XQuery, text can occur within attribute
  - G. If every \$x in Set(\$v) satisfies Pred(\$x,\$v) and Set(\$v) is not empty, then some \$x in Set(\$v) satisfies Pred(\$x,\$v)
  - H. If some \$x in Set(\$v) satisfies Pred(\$x,\$v) then every \$x in Set(\$v) satisfies Pred(\$x,\$v)
  - I. It is possible that some \$x in Set(\$v) satisfies Pred(\$x,\$v) is false and every \$x in Set(\$v) satisfies Pred(\$x,\$v) is true
  - J. XQuery can produce non-XML results as output