Assignment 12
Handout date: 25/01/2006, Due date: 31/01/2006

Exercise 1: XUpdate – Pre/Post Encoding  4 Points

Updates are still an open and mostly unsolved issue in XML implementations. Whereas some data modifications can be handled very efficiently, others seem to be pretty time consuming. Remember our XMLDB prototype and sum up all operations that are necessary for the following example updates. Your approach should be that general that it can also be applied to other nodes in the document:

- `<xupdate:update select="/country[@name = 'Germany']/@population">83.324.746</xupdate:update>`
- `<xupdate:append select="/mondial">Molvania</xupdate:append>`
- `<xupdate:rename select="/country[@name = 'Germany']/city">Stadt</xupdate:rename>`
- `<xupdate:remove select="/city/population" />`

Next, based on your execution plans, estimate how long all operations will approximately take (O-Notation).

Exercise 2: XUpdate – Skeleton Encoding  3 Points

Which operations are necessary in the Skeleton encoding to perform the following XUpdate statements?

- `<xupdate:rename select="/city">town</xupdate:rename>`
- `<xupdate:remove select="/province" />`
- `<xupdate:append select="/province[@name = 'Baden Wurttemberg']">Konstanz</xupdate:append>`

Notes:

- all update statements are based on the factbook.xml document
- If you submit non-ASCII files, please get sure they will be readable…