**Advanced SQL and XML**

**CSC317 Database Systems II**

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**SLP 01 – Part B - Summary**

**Summary**

This assignment was very rewarding, for me. It was probably a lot more difficult than it was ever intended to be, but I finally got through it and I’m happy to share the ups and downs as I progressed through the assignment. This can be found in chapter 18 of Oracle’s XML DB Developer’s Guide – available via Oracle’s Help Center (“18 XMLType Views”, n.d.).

It took me weeks and a lot of reaching out to Trident’s faculty to get enough of the configuration issues sorted out to be able to complete this assignment. I’ve even had to request additional time to be able to learn many of the valuable concepts covered in Oracle’s extensive tutorial for this assignment.

As I started reading the tutorials provided via the links in the SLP 01 assignment, I was introduced to XQuery; which, was a real treat because I’ve heard about XML in databases but have never seen or used it. Noting that XQuery is case sensitive and must be in lower case format was something that I was glad to pick up along the way.

I also came across many new terms and acronyms. FLWOR, pronounced flower, is one such term and it refers to the basic **for-let-where-order by-return** expression syntax that is at the core of working with XQuery. “The let clause extracts three values using XPath notation (“Gennick”, 2005). The order by sorts the results similarly to SQL. The return generates a child <node> for each subset of the parent <node>. **XMLType** view is another term that I enjoyed learning about. While they wrap existing relational and object-relational data in XML formats, they do not store in the database in a way that is easy to read and understand XML; therefore, SQL Developer provides functionality to output XML to the resultant screen for human interpretation. I searched long and hard for a solution to render the results of my queries in such a format, but I was unsuccessful. I have reached out to faculty at Trident University and have high hopes that the answer to this puzzle will be given.

When I came to the section, Using Object Types with SYS\_XMLGEN to Create Non-Schema-Based XMLType Views, I noticed that the date was not displayed in the XML result. This was illogical and confusing for me and I still have no explanation as to why that phenomenon has occurred. In this section I also observed that there is a difference between executing an Oracle SQL Developer SCRIPT versus a STATEMENT. I do know that executing a STATEMENT runs the SQL query, but the SCRIPT runs both SQL and XQuery queries.

In the section, Creating XML Schema-Based XMLType Views, there was a step in the tutorial to register the database schema. The target location was the url, http://www.oracle.com/emp\_simple.xsd. I tried opening this url in my web browser, but Oracle could not find the page. I found this a bit confusing because it seems this step is more appropriate for internal usage with Oracle staff than for others.

In the section, Using Namespaces With SQL/XML Functions, I struggled understanding why the results displayed when I executed the SCRIPT were different than the tutorials. This confusion came from not knowing how to get SQL Developer to display the XML in a fashion that is readable by humans.

In the section, Using Object Types and Views to Create XML Schema-Based XMLType Views, I recognized that Oracle made a mistake. The author of the tutorial did not specify that there was a change from the ‘oe’ database to the ‘hr’ database. This caused a lot of confusion, but I was able to rectify the problems by altering the statements. Later, I ended up switching databases and re-running the original tutorial queries and was able to move forward with the assignment.

In section, Wrapping Relational Department Data with Nested Employee Data as XML, I had experienced significant difficulties. After many attempts, I was unsuccessful at executing the queries as shown in the tutorial. This is a major concern for me because I was hoping to get the most out of this tutorial and this is the only section that I was not able to see successful queries executed. This was the same for, Creating XMLType Views From XMLType Tables and using the function REF().

In the section, XPath Rewrite on XMLType Views, I experienced some minor difficulty. In the tutorial, there was a missing parenthesis in the statement. This caused an error and the code could not be executed. I, troubleshot, found, and fixed, the error and the statement executed successfully. I also came across non matching query results via the tutorial and my version of SQL Developer.

In addition to these struggles, I had to make a significant adjustment to the existsNode() query. The WHERE clause was not able to execute as it was shown in the tutorial. The modification was not difficult, once I found what the problem was, but it was quite confusion. The WHERE clause originally passed more arguments than the function could accept. I pulled out the erroneous parameter and added the AND keyword to modify the WHERE clause and the query executed as expected.

REFERENCES

18 XMLType Views. (n.d.). Retrieved February 12, 2016, from <http://docs.oracle.com/cd/B19306_01/appdev.102/b14259/xdb14vie.htm#i1026153>

Gennick, J. (2005, September). XQuery Flowers. Retrieved February 12, 2016, from <http://www.oracle.com/technetwork/issue-archive/2005/05-sep/o55xquery-097999.html>