Assignment A5

1. A(n) _____ file provides the composition of the database's logical model and defines the syntax rules for an XML document.
a.XMLD
b.XHTML
c.DTD
d.meta

2. Among client-side extensions, _____ is a Microsoft specification for writing programs that run inside the Internet Explorer browser.
a.COBOL
b.ActiveX
c.JavaScript
d.Visor.Net

3. Another name for a database server-side extension program is _____.
a.a web server
b.a web application middleware
c.web-to-database middleware
d.a database application server

4. Based on Microsoft's Component Object Model (COM), _____ is database middleware that adds object-oriented functionality for access to relational and nonrelational data.
a.MS-DB
b.OLE-DB
c.COM-DB
d.ODBC

5. Each time an end user clicks a hyperlink, the browser generates a(n) _____ page request that is sent to the designated web server using the TCP/IP Internet protocol.
a.HTML
b.XML
c.HTTP GET
d.API

6. Every XML document has a _____.
a.root element
b.base tag
c.schema
d.DTD

7. In the ODBC architecture, a(n) _____ is in charge of managing all database connections.
a.ODBC API
b.DLL
c.ODBC driver
d.driver manager

8. ODBC works on the _____ operating system.
a.Kronos
b.UNIX
c.Windows
d.Mac

9. One of the advantages of _____ over other middleware is that it requires no configuration on the client side.
a.ODBC
b.JDBC
c.OLE-DB
d.ADO.NET

10. The web browser's job is to interpret the HTML code that it receives from a web server and to:
a.develop web-based applications.
b.display it in a standard formatted way.
c.perform immediate data entry validation.
d.extract details, such as order data, from it.

11. Using _____, you can extract data from an XML document and convert it into a text file.
a.XMLD
b.XSLT
c.DTD
d.XML schema

12. Which of the following is a characteristic of the XML metalanguage?
a.It is concerned with the way data are displayed.
b.It allows the definition of new tags.
c.You can use the // symbol for entering a comment in the XML document.
d.It can be used as a replacement of HTML.

13. Which of the following is the first step in the exchange between a web browser and a database?
a.The HTML output is displayed on the client computer's web browser.
b.The middleware receives the query result and creates the HTML-formatted page.
c.The client's web browser requests a page from a web server.
d.The web-to-database middleware uses ODBC to connect to the database.

14. _____ cloud is a type of cloud infrastructure that is built by a third-party organization to sell cloud services to the general public.
a.Community
b.Public
c.Exclusive
d.Private

15. _____ is a web application server that provides the ability to connect web servers to multiple data sources.
a.MS Access
b.ColdFusion/JRun
c.FoxPro
d.dBase

16. _____ is an object-oriented programming language developed by Sun Microsystems that runs on top of web browser software.
a.Visual Basic
b.Java
c.JavaScript
d.VBScript

17. _____ is a computing model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computer resources that be rapidly provisioned and released with minimal management effort or service provider interaction.

a.Cloud computing

b.OBDC

c.SQL data services

d.database middleware

Deliverables

RemoteLabs MS SQL Server
http://labs.cci.fsu.edu/
Important: A5 requires the completion of A4!

Business Rules:

Expanding upon the high-volume home office supply company's data tracking requirements, the CFO requests your services again to extend the data model's functionality. The CFO has read about the capabilities of data warehousing analytics and business intelligence (BI), and is looking to develop a smaller data mart as a test platform. He is under pressure from the members of the company's board of directors who want to review more detailed **sales** reports based upon the following measurements:

1. Product
2. Customer
3. Sales representative
4. Time (year, quarter, month, week, day, time)
5. Location

Furthermore, the board members want location to be expanded to include the following characteristics of location:

1. Region
2. State
3. City
4. Store

MS SQL Server

1. **Using RemoteLabs, log into SQL Server:** http://labs.cci.fsu.edu/
2. **Must** populate tables using **T-SQL *or* Table Designer (if chosen, research how to use it) NOTES: Tables *must* include the following constraints and defaults:**

   - ***all*** numeric values: >= 0

Example: ([sal_total] >= (0))
   - state: default = FL
   - zip: require entries in zip column to be 9 digits

Example: ([str_zip] like '[0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9]')
   - phone num: require entries in phone column to be 10 digits

Example: ([str_num] like '[0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9] [0-9]')

3. **FK:** Must require ON DELETE CASCADE, ON UPDATE CASCADE

4. Include at least **25 *unique*** records in the **sale** table, and at least **5 *unique* records** in all other tables.

Video helper files:
1. LIS3781 A5a: https://youtu.be/6r5X_ufnyhU
2. LIS3781 A5b: https://youtu.be/Ugvs6FjgQtI
3. LIS3781 A5c: https://youtu.be/NL0LL5U4E_E

Deliverables

1. **ERD (tables *must* be populated using <mark>RemoteLabs – MS SQL Server</mark>)**
2. **SQL Statement Questions**

<mark>**No** Credit will be given if tables **and** data are not populated in RemoteLabs MS SQL Server.</mark>

Note:
<mark>README.md</mark> file should include the following items:
1. Screenshot of ***your*** ERD;
3. Optional: SQL code for the required reports.
4. Bitbucket repo links: ***Your*** lis3781 Bitbucket repo link

<mark>**Deliverables (see screenshots below):**</mark>

1. <mark>Provide **Bitbucket** read-only access to **course** repo, using Markdown syntax, (**README.md** must also include screenshots per above.)
   (**DO NOT create README in Bitbucket**—ALWAYS do it locally, then push it to Bitbucket.)</mark>
2. <mark>**FSU's Learning Management System**: include course **Bitbucket** repo link</mark>

SQL Statements for A5

The following items are *required* (use <mark>RemoteLabs – MS SQL Server</mark>):

<mark>**NOTE:** All dollar amounts must be formatted to two decimal places, including a dollar sign ($). All phone numbers and zip codes must include proper hyphens (-).</mark>

1. Create a stored procedure (**product_days_of_week**) listing the product names, descriptions, and the day of the week in which they were sold, in ascending order of the day of week.

2. Create a stored procedure (**product_drill_down**) listing the product name, quantity on hand, store name, city name, state name, and region name where each product was purchased, in descending order of quantity on hand.

3. Create a stored procedure (**add_payment**) that adds a payment record. Use variables and pass suitable arguments.

4. Create a stored procedure (**customer_balance**) listing the customer's id, name, invoice id, total paid on invoice, balance (derived attribute from the difference of a customer's invoice total and their respective payments), pass customer's last name as argument—which may return more than one value.

5. Create and display the results of a stored procedure (**store_sales_between_dates**) that lists each store's id, sum of total sales (formatted), and years for a given time period, by passing the start/end dates, group by years, and sort by total sales then years, both in descending order.

6. Create a trigger (**trg_check_inv_paid**) that updates an invoice record, after a payment has been made, indicating whether or not the invoice has been paid.

<mark>*****Extra Credit*****</mark>

Create **and** display the results of a stored procedure (**order_line_total**) that calculates the total price for each order line, based upon the product price times quantity, which yields a subtotal (oln_price), total column includes 6% sales tax. Query result set should display order line id, product id, name, description, price, order line quantity, subtotal (oln_price), and total with 6% sales tax. Sort by product ID.

Example:

oln_id	pro_id	pro_name	pro_descript	pro_price	oln_qty	oln_price	total_with_6pct_tax
4	1	hammer	claw type	$7.99	2	$15.98	$16.94
1	2	screwdriver	Torx Drive	$3.49	10	$34.90	$36.99
2	3	pail	16 Galllon	$7.99	7	$55.93	$59.29
3	4	cooking oil	Peanut oil	$28.99	3	$86.97	$92.19
5	5	frying pan	copper	$13.99	13	$181.87	$192.78

MS SQL Server Notes:

Save (Not Permitted) Dialog Box:
The Save (Not Permitted) dialog box warns you that saving changes is not permitted because the changes you have made require the listed tables to be dropped and re-created.

To change this option, on the Tools menu, click Options, expand Designers, and then click Table and Database Designers. Select or clear the Prevent saving changes that require the table to be re-created check box.

Creating Tables in MS SQL Server Using Management Studio:
http://databases.about.com/od/sqlserver/ss/sqlservertables.htm

http://www.youtube.com/watch?v=m0-vZZl0QFA

http://www.cs.trinity.edu/~thicks/Tutorials/MSSQL-Server-Management-Studio-DB-Construction/MSSQL-Server-Management-Studio-DB-Construction.html