# Seidenberg Applied Data Sciences & Networking Lab

## Student Lab #3: Orders Table Creation Using Stored Procedures in Microsoft SQL Server

### Introduction

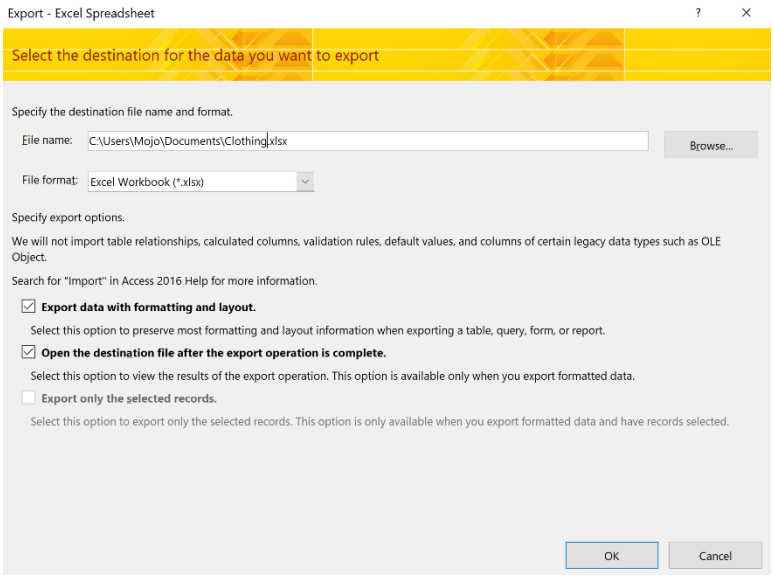
In this lab, Lab 3, you will be creating the “Orders_Master” and “Orders_Detail” tables, which will contain information about the 1M+ orders you will generate using stored procedures and cursors in Microsoft SQL Server. There are 6 different scripts you will run to generate orders for years 2000, 2001, 2002, 2003, 2004, and 2005. These scripts contain a stored procedure and a nested cursor to randomly select a product and customer. Once selected, the customer’s ID from the “Customers” table, as well as the unique product ID from each product’s respective table are recorded in the “Orders_Master” and “Orders_Detail” tables. The script to generate the orders for each year are different in that they all create different order patterns amongst the customers.

### Generating Orders in Microsoft SQL Server

1) To run the scripts that will create customer orders in Microsoft SQL Server, you will first need to import your products table into Microsoft SQL Server. Create a new database, just as you did in Lab 2, and entitle it ‘Products’.

2) In order for the scripts and the procedures to run properly, you must have all of your products in Microsoft SQL Server. To do this, go to your “Product_Master” Microsoft Access database. You must export the “Books”, “Clothing”, “Movies”, “Makeup”, “Kitchen_Items”, and “Pet_Supplies” to Microsoft Excel. To do so, right click on each of the mentioned tables, hover over “Export” then select “Excel”.

3) Below, is an example of the prompt that will come up after selecting “Excel”. Be sure the two check boxes are checked, as shown in the photo.




4) Step 3 must be completed because the tables in Microsoft Access have a “Calculated Value”, a data type not supported by Microsoft SQL Server. Once you have exported all tables to Microsoft Excel, go back to your “Products” database in Microsoft SQL Server. Recreate, in Microsoft SQL Server, each of the six tables you exported, and then import the data from Microsoft Excel into each table. You now have an entire “Products” database in Microsoft SQL Server.

5) Switch back to your “Amazon” database. Create a new query window (CTRL+N), copy and paste the “Queries_2000” file into the window. First, run the code that creates the two tables, and creates the primary/foreign key relationship. Then, run the code that creates the stored procedure “Orders_2000”. The pattern for customer orders in 2000 is basic: each customer buys 1 book per month, every month of the year, for a total of 120,000 total orders.

6) Once the query has finished, run the query “*SELECT COUNT(*) FROM Orders_Master*” to ensure the script ran properly. If it ran with no issues, create a new query window, and run the stored procedure in “Queries_2001” just as you did in Step 5. The pattern of customer orders for 2001 is having each customer purchase 1 random item from any of the 6 products tables every month of the year, for another 120,000 total orders.

7) In a new query window, copy, paste, and run the stored procedure found in the script “Queries_2002”. The 2002 orders pattern is having every customer purchase between 1 and 6 items every month, for the entire year. This will yield between 120,000 and 720,000 total orders, depending on the output of the random numbers generated.

8) In a new query window, copy, paste, and run the stored procedure found in the script "Queries_2003". The 2003 orders pattern is having every male purchase two random items every month, and female purchase three random items every month. This will yield a total of 300,000 orders.

9) In a new query window, copy, paste, and run the stored procedure found in the script "Queries_2004". The 2004 orders pattern is having every male buy 3 random customers on only even months, and females buy 5 random items on odd months. This will yield a total of 240,000 orders.

10) In a new query window, copy, paste, and run the stored procedure found in the script "Queries_2005". The 2005 orders pattern is having every male purchasing 1 item from only from categories 1, 3, or 5 (books, clothing, or kitchen items), and female purchasing 1 item only from categories 2, 4, or 6 (movies, makeup, or pet supplies), once a month. This yields a total of 120,000 orders.

11) Once you have ran all 6 scripts, get the count of your "Orders_Master" table and "Orders_Detail" table, and make sure they are equal. You should approximately 1 million total orders, depending on the behavior of your random number generators.

## Review

In this lab, you created approximately 1 million orders using 6 scripts for each year between and including 2000 and 2005. Your Amazon database is now complete.