# Lab 7 – Advanced Querying

## Deliverable

Word or PDF File containing your work

## Set up

In this lab, you will apply the concepts learned in this week's lectures and readings. You'll need access to a SQL Server instance to perform these tasks. You can use either the iSchool resource or install SQL Server Developer or Express edition on your own computer.

It may also be helpful to review the W3 Schools chapters on selecting, inserting, deleting, and updating data:

http://www.w3schools.com/sql/sql_select.asp

http://www.w3schools.com/sql/sql_insert.asp

http://www.w3schools.com/sql/sql_delete.asp

http://www.w3schools.com/sql/sql_update.asp

## Steps

Create a blank document to record your answers to the questions called out below. Ensure your name is at the top of the document! Any diagrams should be done using Visio 2010 and paste the diagram into your Word Document.

1. We're expanding our database. We can now order products from multiple vendors, and each vendor can provide many products, so we need both a Vendor table and an associative entity betwene them. Code and Execute the SQL to add the new tables and relationships per the following diagram (note: you've already created the product table – I hope – and there are no changes required):
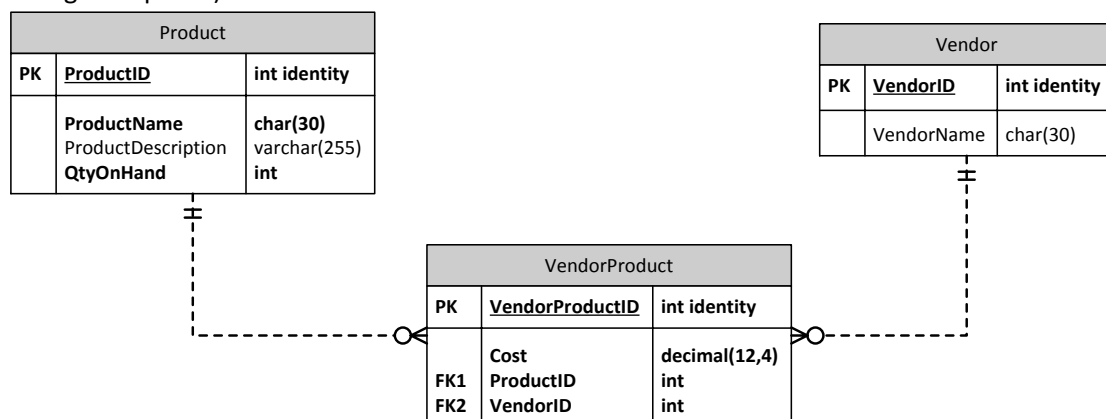


2. Code and execute the INSERT statements to add the following Vendors to the Vendor table:
    a. Spikey
    b. Tweebox
    c. Ernder Ermer

3. Code and execute the INSERT statements to add the following values to the Vendor Product table (note: you will need to find the appropriate ProductID and VendorID for each row – brownie points if you can do it as part of your INSERT statement!)

| VendorName | ProductName | Cost |
|---|---|---|
| Spikey | Red Shoes | 50 |
| Spikey | Blue Shoes | 45 |
| Spikey | Green Shoes | 30 |
| Tweebox | Red Shoes | 55 |
| Tweebox | Green Hat | 20 |
| Ernder Ermer | Red Shoes | 60 |
| Ernder Ermer | Green Hat | 25 |

4. Execute the following code against your database:

```
SELECT
      Product.ProductName
    , Vendor.VendorName
    , VendorProduct.Cost
FROM Product
JOIN VendorProduct ON VendorProduct.ProductID = Product.ProductID
JOIN Vendor ON Vendor.VendorID = VendorProduct.VendorID
```

   a. Paste a screenshot of the results of that query to your lab document.
   b. Are there any products missing? If so, why? Answer in your lab document.
   c. Revise the query to show any missing products (if there are any)

5. Rewrite the query in question 4 to add the average, minimum, and maximum costs of each product. Hint: Remove the Vendor info and think Aggregates!
   a. Code and execute this query. Copy and paste the code to your lab document.
   b. Paste a screenshot of the results to your lab document.