**Name Stephen McGuire**

**CSIT 2510 Advanced Database – Applied Final Exam (100 points)**

**Please note that this part of the exam is open book, open notes, open browser, closed neighbor. You are not permitted to consult with any person other than the instructor during this exam.**

**Note:**

* The user etl\_admin should be used to connect to all source and destination databases. The password will be written on the board. It is the same as the one used during the semester.
* The reference to “your database” is the database that you have worked on all semester. It is named by your user login.

1. Create the etl\_admin user in your database if it’s not already there. Write below the DDL statement that you would use to create the etl\_admin user in your database (5 pts)
2. CREATE USER etl\_admin;
3. Put the etl\_admin user in the db\_owner role in your database (5pts)
   1. alter user etl\_admin with default\_schema = db\_owner;
   2. grant db\_owner to etl\_admin;
4. Write below the DDL statement that you would use to add the etl\_admin user to the db\_owner role of your database (5 pts)

alter user etl\_admin with default\_schema = db\_owner;

1. Create a schema in your database by the name Final. Write below the DDL statement that you would use to create the schema (5 pts).

CREATE SCHEMA Final;

* 1. GO

1. Download the sql script CreateCafeDWTables.sql from Brightspace’s “Final” folder under Content. Open the script in SQL Server Management Studio and run the installation script on your database to create the sales dw tables in your Final schema (10 pts)

1. 
2. Write an SSIS package to import the content of the Calendar dimension from the dw\_sales database to the calendar dimension in your database (15 pts)
   1. Note that the table already exists as a result of executing the script above.
   2. Your SSIS package should be called <your user name>PopulateCalendar, e.g. esemaanPopulateCalendar.dtsx
   3. Upload your package to the “Final Test” Assignment folder in Brightspace.
   4. Failure to use the proper name for your SSIS package will result in point deductions.
3. Download the PaymentTypes file from the “Final” content folder in Brightspace to a folder on your H drive. Write an SSIS package to read from the PaymentTypes file into your PaymentTypes dimension table (15 pts).
   1. Note that the destination table already exists as a result of executing the script above.
   2. Your SSIS package should be called <your user name>PopulatePaymentTypes.dtsx, e.g. esemaanPopulatePaymentTypes.
   3. Upload your package to the “Final Test” Assignment folder in Brightspace.
   4. Failure to use the proper name for your SSIS package will result in point deductions.
4. Copy the entire content of the MinorGroups dimension table from the dw\_sales database to your MinorGroups dimension in your Final schema, include the statement below. It should be done in one SQL statement (5 pts)
   * Note that the MinorGroups table does not exist in your Final schema.
   * Select \* into sbmcguire.Final.DIM\_MinorGroups from dw\_Sales.dbo.DIM\_MinorGroups;
5. Write a stored procedure by the name spCopyMajorGroupsDimension: (20 pts)

* Create the stored procedure in your Final schema.
* The stored procedure should insert into your sales fact table -of your final schema- sales records from the dw\_sales’ sales fact table (FACT\_StudentDailySales), based on criteria below.
* Whenever the stored procedure runs, it should retrieve yesterday’s sales from the dw\_sales fact table and insert them into your sales fact table.
* Hint: Use the following date to identify yesterday’s sales: convert(date, getdate()-1 )

spCopyMajorGroupsDimension



1. Using the view v\_SalesByProduct from the SaleCo database as a source, write a SQL statement -that you will include below- to display the total sales by pay type (cash, cc, ..) for the products: [23109-HB], [54778-2T], [14-Q1/L3], and [1558-QW1] (15 pts). The output of your query should look like the following: (15 pts)

Pay\_TYPE 23109-HB 54778-2T 14-Q1/L3 1558-QW1

cash NULL 9.98 NULL NULL

cc 29.85 14.97 NULL NULL

chk NULL 4.99 NULL NULL

cred 19.90 NULL NULL NULL



## Extra Credit

1. Create a PowerBI dashboard that sources its data from the dw\_sales database. The dashboard shall visualize the following: (15 pts)

* a card that shows dine-in sales and another card that shows togo sales (5 pts)
* a pie chart that shows dine-in sales and togo sales (5 pts)
* a line char that shows dine-in sales and togo sales by sales date (daily sales) (5 pts)

Your PowerBI dashboard should be called <your user name>SalesDash.

Upload your dashboard file (the .pbx file) to the “Final Test” folder under Assignments in Brightspace.