Assignments – list 4

1. Create a new schema in the AdventureWorks database, use your name for that.

```
CREATE SCHEMA schema name [ <schema element> [ ...n ] ]
```

2. Create new Dimension and Fact Tables inside that schema, then copy data into them. Note that some attributes may be NULL, for Color change to "Unknown", for SubCategory change to "Unknown", for CountryRegionCode change to "000", for Group change to "Unknown"
   a. DIM_CUSTOMER (CustomerID, FirstName, LastName, Title, City, TerritoryName, CounrtyRegionCode, Group)
   b. DIM_PRODUCT (ProductID, Name, ListPrice, Color, SubCategoryName, CategoryName, Weight, Size, IsPurchased)
   c. DIM_SALESPERSON (SalesPersonID, FirstName, LastName, Title, Gender, CountryRegionCode, Group)
   d. FACT_SALES (ProductID, CustomerID, SalesPersonID, OrderDate, ShipDate, OrderQty, UnitPrice, UnitPriceDiscount, LineTotal).

```
CREATE TABLE
    { database name.schema name.table name. |
       schema name.table name | table name }
    ( { <column definition> } [ ,...n ] )
```

```
[ WITH <common table expression> [ ,...n ] ]
INSERT
{
        [ TOP ( expression ) [ PERCENT ] ]
        [ INTO ]
        { <object> | rowset function limited
          [ WITH ( <Table Hint Limited> [ ...n ] ) ]
        }
    {
        [ ( column_list ) ]
        [ <OUTPUT Clause> ]
        { VALUES ( { DEFAULT | NULL | exp } [ ,...n ] )
        | derived_table
        | execute statement
        | <dml table source>
        | DEFAULT VALUES
        }
    }
}
```

3. Create DIM_TIME based on OrderDate and ShipDate. They are integers (4 positions for year, 2 for month, 2 for day), we will need to extract data with datepart.
4. Add integrity constraints between tables (based on foreign and primary keys). Verify with a simple INSERT INTO query.

```
ALTER TABLE table name
ADD CONSTRAINT constraint_name
{
    [ NULL | NOT NULL ]
    { PRIMARY KEY | UNIOUE }
        [ CLUSTERED | NONCLUSTERED ]
        [ WITH FILLFACTOR = fillfactor ]
        [ WITH ( index option [, ...n ] ) ]
        [ ON { partition scheme name (partition column name)
            | filegroup | "default" } ]
FOREIGN KEY attribute name
REFERENCES [ schema name . ] referenced table name
            [ ( ref_column ) ]
[ ON DELETE { NO ACTION | CASCADE | SET NULL | SET DEFAULT }]
        [ NOT FOR REPLICATION ]
    | CHECK [ NOT FOR REPLICATION ] ( logical_expression )
}
```

5. Create a new project in Integration Services, which will repeat the steps 2-4. Use Execute SQL Task. Split it into:
    a. Drop schema / Drop tables

```
DROP SCHEMA  [ IF EXISTS ] schema name
```

```
DROP TABLE [ IF EXISTS ]
{ database_name.schema_name.table_name | schema_name.ta-
ble_name | table_name } [ ,...n ]
```

    b. Create tables
    c. Insert data into tables
    d. Add integrity constraints
6. Add EventHandlers and an e-mail confirmation if the process completed or failed.
7. Run to the Integration Services project (ETL). If it works, create an Analysis Services project based on the created tables. Check in Excel if the results are similar to assignments list 3.