30. Write a short essay talking about a scenario: Good news everyone! We (Wide World Importers) just brought out a small company called “Adventure works”! Now that bike shop is our sub-company. The first thing of all works pending would be to merge the user logon information, person information (including emails, phone numbers) and products (of course, add category, colors) to WWI database. Include screenshot, mapping and query.

Mapping:

In this classical ETL process, First we find what is available as our source and what destination looks like; We have Adventure Works as our source, and our destination is Wide World Importers. For each columns of table in my destination, where we can find the source table is shown in the below mapping table:

Adventure works	Wide World Importers
User logon information: Person.Password	User logon information: Application.People: LogonName, HashedPassword
person information (including emails, phone numbers) : Person.Person; Person.EmailAddress; Person.PersonPhone	Personalphone and Email: Application.People: PhoneNumber, EmailAddress
Products (of course, add category, colors): Production.Product (colors); Production.ProductionSubcategory (category)	Product: Warehouse.StockItems: ColorID Category: Warehouse.StockItemStockGroup

We create two tables for user information and product information, respectively.

```sql
-- table for user personal information
create table personal_info (
    FirstName varchar(20),
    LastName varchar(20),
    PhoneNumber nvarchar(25),
    EmailAddress nvarchar(50),
    PasswordHash varchar(128)
);
insert into personal_info
select  a.FirstName,
            a.LastName,
            b.PhoneNumber,
            c.EmailAddress,
            d.PasswordHash
    from [Person].[Person] a
    left join [Person].[PersonPhone] b
    on a.BusinessEntityID = b.BusinessEntityID
    left join [Person].[EmailAddress] c
    on a.BusinessEntityID=c.BusinessEntityID
    left join [Person].[Password] d
    on a.BusinessEntityID = d.BusinessEntityID;
```

```sql
-- table for product information
create table product_info(
    color nvarchar(15),
    categoryID int
);
insert into product_info
select  a.color,
        b.ProductSubcategoryID
from [Production].[Product] a
 left join [Production].[ProductSubcategory] b
 on a.ProductSubcategoryID = b.ProductSubcategoryID;
```

With the same mapping logic shown in the above table, we merge the user information table with the Application.People table; merge colors with Warehouse.StockItems table; merge subcategory with Warehouse.StockItemStockGroups table. If the data does not match, we directly insert the un-matched data into the WWI schema.

```sql
merge WideWorldImporters.Application.people a
using personal_info b
on a.FullName= b.FullName
when not matched then
    insert(FullName, HashedPassword,PhoneNumber, EmailAddress)
    values(b.FullName, b.PasswordHash, b.PhoneNumber, b.EmailAddress);
```

```sql
merge WideWorldImporters.Warehouse.StockItems a
using product_info b
on a.ColorID = b.colorID
when not matched then
    insert(colorID)
    values(b.colorID);
```

```sql
merge WideWorldImporters.Warehouse.StockItemStockGroups a
using product_info b
on a.StockGroupID = b.ProductSubcategoryID
when not matched then
    insert(StockGroupID)
    values(b.ProductSubcategoryID);
```