



# DATABASE DESIGN PORTFOLIO – PART B

GABRIELLA ROTERMUND KREISCHE

## Queries

1. Create a view called EmployeeRestricted\_view that includes just these columns from the table: EmployeeID, LastName, FirstName, and Title. Selecting all records from the view will result in 9 rows. (4 marks)

```
9 | SELECT * FROM EmployeeRestricted_view;
```

133 %

Results Messages

|   | EmployeeID | LastName  | FirstName | Title                    |
|---|------------|-----------|-----------|--------------------------|
| 1 | 1          | Davolio   | Nancy     | Sales Representative     |
| 2 | 2          | Fuller    | Andrew    | Vice President, Sales    |
| 3 | 3          | Leverling | Janet     | Sales Representative     |
| 4 | 4          | Peacock   | Margaret  | Sales Representative     |
| 5 | 5          | Buchanan  | Steven    | Sales Manager            |
| 6 | 6          | Suyama    | Michael   | Sales Representative     |
| 7 | 7          | King      | Robert    | Sales Representative     |
| 8 | 8          | Callahan  | Laura     | Inside Sales Coordinator |
| 9 | 9          | Dodsworth | Anne      | Sales Representative     |

2. Create a query that lists just the employees who are sales representatives. Sort them by name (last name and then first name) alphabetically. Use EmployeeRestricted\_view for this query, not the Employee table. There are 6 rows in the results. (4 marks)

```

11 SELECT * FROM EmployeeRestricted_view
12 WHERE Title = 'Sales Representative'
13 ORDER BY LastName, FirstName;

```

133 %

Results Messages

|   | EmployeeID | LastName  | FirstName | Title                |
|---|------------|-----------|-----------|----------------------|
| 1 | 1          | Davolio   | Nancy     | Sales Representative |
| 2 | 9          | Dodsworth | Anne      | Sales Representative |
| 3 | 7          | King      | Robert    | Sales Representative |
| 4 | 3          | Leverling | Janet     | Sales Representative |
| 5 | 4          | Peacock   | Margaret  | Sales Representative |
| 6 | 6          | Suyama    | Michael   | Sales Representative |

3. Create a view called UnshippedOrders\_view that shows orders that have not been shipped. Include all columns from the OrderDetail table. Selecting all records from the view will result in 21 rows. (4 marks)

```

16 CREATE VIEW UnshippedOrders_view AS
17 SELECT * FROM OrderDetail
18 WHERE ShippedDate IS NULL;
19
20 SELECT * FROM UnshippedOrders_view;

```

133 %

Results Messages

|    | OrderDetailID | CustomerID | EmployeeID | OrderDate               | RequiredDate            | ShippedDate | ShipVia | Freight | ShipName                   | ShipAddress                                    | ShipCity        | ShipRegion    | ShipPostalCode |
|----|---------------|------------|------------|-------------------------|-------------------------|-------------|---------|---------|----------------------------|--|-----------------|---------------|----------------|
| 1  | 11008         | ERNSH      | 7          | 1998-04-08 00:00:00.000 | 1998-05-06 00:00:00.000 | NULL        | 3       | 79.46   | Ernst Handel               | Kirchgasse 6                                   | Graz            | NULL          | 8010           |
| 2  | 11019         | RANCH      | 6          | 1998-04-13 00:00:00.000 | 1998-05-11 00:00:00.000 | NULL        | 3       | 3.17    | Rancho grande              | Av. del Libertador 900                         | Buenos Aires    | NULL          | 1010           |
| 3  | 11039         | LINOD      | 1          | 1998-04-21 00:00:00.000 | 1998-05-19 00:00:00.000 | NULL        | 2       | 65.00   | LINO-Delicatesses          | Ave. 5 de Mayo Portamar                        | I. de Margarita | Nueva Esparta | 4980           |
| 4  | 11040         | GREAL      | 4          | 1998-04-22 00:00:00.000 | 1998-05-20 00:00:00.000 | NULL        | 3       | 18.84   | Great Lakes Food Market    | 2732 Baker Blvd.                               | Eugene          | OR            | 97403          |
| 5  | 11045         | BOTTM      | 6          | 1998-04-23 00:00:00.000 | 1998-05-21 00:00:00.000 | NULL        | 2       | 70.58   | Bottom-Dollar Markets      | 23 Tsawassen Blvd.                             | Tsawassen       | BC            | T2F 8M4        |
| 6  | 11051         | LAMAI      | 7          | 1998-04-27 00:00:00.000 | 1998-05-25 00:00:00.000 | NULL        | 3       | 2.79    | La maison d'Asie           | 1 rue Alsace-Lorraine                          | Toulouse        | NULL          | 31000          |
| 7  | 11054         | CACTU      | 8          | 1998-04-28 00:00:00.000 | 1998-05-26 00:00:00.000 | NULL        | 1       | 0.33    | Cactus Comidas para llevar | Centro 333                                     | Buenos Aires    | NULL          | 1010           |
| 8  | 11058         | BLAUS      | 9          | 1998-04-29 00:00:00.000 | 1998-05-27 00:00:00.000 | NULL        | 3       | 31.14   | Blauer See Delikatessen    | Forsterstr. 57                                 | Mannheim        | NULL          | 68306          |
| 9  | 11059         | RICAR      | 2          | 1998-04-29 00:00:00.000 | 1998-06-10 00:00:00.000 | NULL        | 2       | 85.80   | Ricardo Adocicados         | Av. Copacabana, 267                            | Rio de Janeiro  | RJ            | 02389-890      |
| 10 | 11061         | GREAL      | 4          | 1998-04-30 00:00:00.000 | 1998-06-11 00:00:00.000 | NULL        | 3       | 14.01   | Great Lakes Food Market    | 2732 Baker Blvd.                               | Eugene          | OR            | 97403          |
| 11 | 11062         | REGGC      | 4          | 1998-04-30 00:00:00.000 | 1998-05-28 00:00:00.000 | NULL        | 2       | 29.93   | Reggiani Caseifici         | Strada Provinciale 124                         | Reggio Emilia   | NULL          | 42100          |
| 12 | 11065         | LILAS      | 8          | 1998-05-01 00:00:00.000 | 1998-05-29 00:00:00.000 | NULL        | 1       | 12.91   | LILA-Supercorreo           | Carrera 52 con Ave. Bolivar #65-98 Llano Largo | Barquisimeto    | Lara          | 3508           |
| 13 | 11068         | QUEEN      | 8          | 1998-05-04 00:00:00.000 | 1998-06-01 00:00:00.000 | NULL        | 2       | 81.75   | Queen Cozinha              | Alameda dos Canarios, 891                      | Sao Paulo       | SP            | 05487-020      |
| 14 | 11070         | LEHMS      | 2          | 1998-05-05 00:00:00.000 | 1998-06-02 00:00:00.000 | NULL        | 1       | 136.00  | Lehmanns Marktstand        | Magazinweg 7                                   | Frankfurt a.M.  | NULL          | 60528          |
| 15 | 11071         | LILAS      | 1          | 1998-05-05 00:00:00.000 | 1998-06-02 00:00:00.000 | NULL        | 1       | 0.93    | LILA-Supercorreo           | Carrera 52 con Ave. Bolivar #65-98 Llano Largo | Barquisimeto    | Lara          | 3508           |
| 16 | 11072         | ERNSH      | 4          | 1998-05-05 00:00:00.000 | 1998-06-02 00:00:00.000 | NULL        | 2       | 258.64  | Ernst Handel               | Kirchgasse 6                                   | Graz            | NULL          | 8010           |

Query executed successfully.

X205-64472 (15.0 RTM) | ARA\gar0310 (71) | NORTHWND\_DE103 | 00:00:00 | 21 rows

4. Create a query that lists orders that were required in June 1998, but have not been shipped. Use your UnshippedOrders\_view for this query, not the OrderDetail table. There are 11 rows in the results. (4 marks)

```
22 SELECT * FROM UnshippedOrders_view
23 WHERE RequiredDate BETWEEN '1998-06-01' AND '1998-06-30';
24
```

| OrderDetailID | CustomerID | EmployeeID | OrderDate               | RequiredDate            | ShippedDate | ShipVia | Freight | ShipName                   | ShipAddress                                    | ShipCity       | ShipRegion | Ship |
|---------------|------------|------------|-------------------------|-------------------------|-------------|---------|---------|----------------------------|--|----------------|------------|------|
| 11059         | RICAR      | 2          | 1998-04-29 00:00:00.000 | 1998-06-10 00:00:00.000 | NULL        | 2       | 85.80   | Ricardo Adocicados         | Av. Copacabana, 267                            | Rio de Janeiro | RJ         | 023  |
| 11061         | GREAL      | 4          | 1998-04-30 00:00:00.000 | 1998-06-11 00:00:00.000 | NULL        | 3       | 14.01   | Great Lakes Food Market    | 2732 Baker Blvd.                               | Eugene         | OR         | 974  |
| 11068         | QUEEN      | 8          | 1998-05-04 00:00:00.000 | 1998-06-01 00:00:00.000 | NULL        | 2       | 81.75   | Queen Cozinha              | Alameda dos Canários, 891                      | Sao Paulo      | SP         | 054  |
| 11070         | LEHMS      | 2          | 1998-05-05 00:00:00.000 | 1998-06-02 00:00:00.000 | NULL        | 1       | 136.00  | Lehmanns Marktstand        | Magazinweg 7                                   | Frankfurt a.M. | NULL       | 605  |
| 11071         | LILAS      | 1          | 1998-05-05 00:00:00.000 | 1998-06-02 00:00:00.000 | NULL        | 1       | 0.93    | LILA-Supermercado          | Carrera 52 con Ave. Bolívar #65-98 Llano Largo | Barquisimeto   | Lara       | 350  |
| 11072         | ERNSH      | 4          | 1998-05-05 00:00:00.000 | 1998-06-02 00:00:00.000 | NULL        | 2       | 258.64  | Ernst Handel               | Kirchgasse 6                                   | Graz           | NULL       | 801  |
| 11073         | PERIC      | 2          | 1998-05-05 00:00:00.000 | 1998-06-02 00:00:00.000 | NULL        | 2       | 24.95   | Pericles Comidas clásicas  | Calle Dr. Jorge Cash 321                       | México D.F.    | NULL       | 050  |
| 11074         | SIMOB      | 7          | 1998-05-06 00:00:00.000 | 1998-06-03 00:00:00.000 | NULL        | 2       | 18.44   | Simons bistro              | Vinbæltet 34                                   | Kobenhavn      | NULL       | 173  |
| 11075         | RICSU      | 8          | 1998-05-06 00:00:00.000 | 1998-06-03 00:00:00.000 | NULL        | 2       | 6.19    | Richter Supermarkt         | Starenweg 5                                    | Genève         | NULL       | 120  |
| 11076         | BONAP      | 4          | 1998-05-06 00:00:00.000 | 1998-06-03 00:00:00.000 | NULL        | 2       | 38.28   | Bon app'                   | 12, rue des Bouchers                           | Marseille      | NULL       | 130  |
| 11077         | RATTC      | 1          | 1998-05-06 00:00:00.000 | 1998-06-03 00:00:00.000 | NULL        | 2       | 8.53    | Rattlesnake Canyon Grocery | 2817 Milton Dr.                                | Albuquerque    | NM         | 871  |

Query executed successfully. X205-64472 (15.0 RTM) ARA\gar0310 (71) NORTHWND\_DE103 00:00:00 11 rows

5. Create a view called OrderShipping\_view that shows data from the OrderDetail table and related data from the Shipper table. Selecting all records from the view will result in 830 rows. (4 marks)

```
29 SELECT * FROM OrderShipping_view;
```

| OrderDetailID | CustomerID | EmployeeID | OrderDate               | RequiredDate            | ShippedDate             | ShipVia | Freight | ShipName                   | ShipAddress                               | ShipCity       | ShipRegion | Ship |
|---------------|------------|------------|-------------------------|-------------------------|-------------------------|---------|---------|----------------------------|---|----------------|------------|------|
| 10248         | VINET      | 5          | 1996-07-04 00:00:00.000 | 1996-08-01 00:00:00.000 | 1996-07-16 00:00:00.000 | 3       | 32.38   | Vins et alcools Chevalier  | 59 rue de l'Abbaye                        | Reims          | NULL       |      |
| 10249         | TOMSP      | 6          | 1996-07-05 00:00:00.000 | 1996-08-16 00:00:00.000 | 1996-07-10 00:00:00.000 | 1       | 11.61   | Toms Spezialitäten         | Luisenstr. 48                             | Münster        | NULL       |      |
| 10250         | HANAR      | 4          | 1996-07-08 00:00:00.000 | 1996-08-05 00:00:00.000 | 1996-07-12 00:00:00.000 | 2       | 65.83   | Hanari Carnes              | Rua do Paço, 67                           | Rio de Janeiro | RJ         |      |
| 10251         | VICTE      | 3          | 1996-07-08 00:00:00.000 | 1996-08-05 00:00:00.000 | 1996-07-15 00:00:00.000 | 1       | 41.34   | Victualles en stock        | 2, rue du Commerce                        | Lyon           | NULL       |      |
| 10252         | SUPRD      | 4          | 1996-07-09 00:00:00.000 | 1996-08-06 00:00:00.000 | 1996-07-11 00:00:00.000 | 2       | 51.30   | Suprêmes délices           | Boulevard Tirou, 255                      | Charleroi      | NULL       |      |
| 10253         | HANAR      | 3          | 1996-07-10 00:00:00.000 | 1996-07-24 00:00:00.000 | 1996-07-16 00:00:00.000 | 2       | 58.17   | Hanari Carnes              | Rua do Paço, 67                           | Rio de Janeiro | RJ         |      |
| 10254         | CHOPS      | 5          | 1996-07-11 00:00:00.000 | 1996-08-08 00:00:00.000 | 1996-07-23 00:00:00.000 | 2       | 22.98   | Chop-suey Chinese          | Hauptstr. 31                              | Bern           | NULL       |      |
| 10255         | RICSU      | 9          | 1996-07-12 00:00:00.000 | 1996-08-09 00:00:00.000 | 1996-07-15 00:00:00.000 | 3       | 148.33  | Richter Supermarkt         | Starenweg 5                               | Genève         | NULL       |      |
| 10256         | WELLI      | 3          | 1996-07-15 00:00:00.000 | 1996-08-12 00:00:00.000 | 1996-07-17 00:00:00.000 | 2       | 13.97   | Wellington Importadora     | Rua do Mercado, 12                        | Resende        | SP         |      |
| 10257         | HILAA      | 4          | 1996-07-16 00:00:00.000 | 1996-08-13 00:00:00.000 | 1996-07-22 00:00:00.000 | 3       | 81.91   | HILARION-Abastos           | Camera 22 con Ave. Carlos Soublette #8-35 | San Cristóbal  | Táchira    |      |
| 10258         | ERNSH      | 1          | 1996-07-17 00:00:00.000 | 1996-08-14 00:00:00.000 | 1996-07-23 00:00:00.000 | 1       | 140.51  | Ernst Handel               | Kirchgasse 6                              | Graz           | NULL       |      |
| 10259         | CENTC      | 4          | 1996-07-18 00:00:00.000 | 1996-08-15 00:00:00.000 | 1996-07-25 00:00:00.000 | 3       | 3.25    | Centro comercial Moctezuma | Siemas de Granada 9993                    | México D.F.    | NULL       |      |
| 10260         | OTTIK      | 4          | 1996-07-19 00:00:00.000 | 1996-08-16 00:00:00.000 | 1996-07-29 00:00:00.000 | 1       | 55.09   | Ottlies Käseladen          | Mehrheimerstr. 369                        | Köln           | NULL       |      |
| 10261         | QUEDE      | 4          | 1996-07-19 00:00:00.000 | 1996-08-16 00:00:00.000 | 1996-07-30 00:00:00.000 | 2       | 3.05    | Que Delícia                | Rua da Panificadora, 12                   | Rio de Janeiro | RJ         |      |
| 10262         | RATTC      | 8          | 1996-07-22 00:00:00.000 | 1996-08-19 00:00:00.000 | 1996-07-25 00:00:00.000 | 3       | 48.29   | Rattlesnake Canyon Grocery | 2817 Milton Dr.                           | Albuquerque    | NM         |      |
| 10263         | ERNSH      | 9          | 1996-07-23 00:00:00.000 | 1996-08-20 00:00:00.000 | 1996-07-31 00:00:00.000 | 3       | 146.06  | Ernst Handel               | Kirchgasse 6                              | Graz           | NULL       |      |

Query executed successfully. X205-64472 (15.0 RTM) ARA\gar0310 (71) NORTHWND\_DE103 00:00:00 830 rows

6. Create a query that lists orders shipped by Speedy Express, sorted by the order date. Use your OrderShipping\_view for this query. There are 249 rows in the results. (4 marks)

```

29 SELECT * FROM OrderShipping_view
30 WHERE CompanyName = 'Speedy Express'
31 ORDER BY OrderDate;

```

| OrderDetailID | CustomerID | EmployeeID | OrderDate               | RequiredDate            | ShippedDate             | ShipVia | Freight | ShipName                     | ShipAddress             | ShipCity       | ShipRegion | ShipPostalCode |
|---------------|------------|------------|-------------------------|-------------------------|-------------------------|---------|---------|------------------------------|-------------------------|----------------|------------|----------------|
| 1             | 10249      | TOMSP      | 1996-07-05 00:00:00.000 | 1996-08-16 00:00:00.000 | 1996-07-10 00:00:00.000 | 1       | 11.61   | Toms Spezialitäten           | Luisenstr. 48           | Münster        | NULL       | 44087          |
| 2             | 10251      | VICTE      | 1996-07-08 00:00:00.000 | 1996-08-05 00:00:00.000 | 1996-07-15 00:00:00.000 | 1       | 41.34   | Victualles en stock          | 2, rue du Commerce      | Lyon           | NULL       | 69004          |
| 3             | 10258      | ERNSH      | 1996-07-17 00:00:00.000 | 1996-08-14 00:00:00.000 | 1996-07-23 00:00:00.000 | 1       | 140.51  | Ernst Handel                 | Kirchgasse 6            | Graz           | NULL       | 8010           |
| 4             | 10260      | OTTIK      | 1996-07-19 00:00:00.000 | 1996-08-16 00:00:00.000 | 1996-07-29 00:00:00.000 | 1       | 55.09   | Ottiles Käseladen            | Mehrheimerstr. 369      | Köln           | NULL       | 50739          |
| 5             | 10265      | BLONP      | 1996-07-25 00:00:00.000 | 1996-08-22 00:00:00.000 | 1996-08-12 00:00:00.000 | 1       | 55.28   | Blondel père et fils         | 24, place Kléber        | Strasbourg     | NULL       | 67000          |
| 6             | 10267      | FRANK      | 1996-07-29 00:00:00.000 | 1996-08-26 00:00:00.000 | 1996-08-06 00:00:00.000 | 1       | 208.58  | Frankenversand               | Berliner Platz 43       | München        | NULL       | 80805          |
| 7             | 10269      | WHITC      | 1996-07-31 00:00:00.000 | 1996-08-14 00:00:00.000 | 1996-08-09 00:00:00.000 | 1       | 4.56    | White Clover Markets         | 1029 - 12th Ave. S.     | Seattle        | WA         | 98124          |
| 8             | 10270      | WARTH      | 1996-08-01 00:00:00.000 | 1996-08-29 00:00:00.000 | 1996-08-02 00:00:00.000 | 1       | 136.54  | Wartian Herkku               | Torikatu 38             | Oulu           | NULL       | 90110          |
| 9             | 10274      | VINET      | 1996-08-06 00:00:00.000 | 1996-09-03 00:00:00.000 | 1996-08-16 00:00:00.000 | 1       | 6.01    | Vins et alcools Chevalier    | 59 rue de l'Abbaye      | Reims          | NULL       | 51100          |
| 10            | 10275      | MAGAA      | 1996-08-07 00:00:00.000 | 1996-09-04 00:00:00.000 | 1996-08-09 00:00:00.000 | 1       | 26.93   | Magazzini Alimentari Riuniti | Via Ludovico il Moro 22 | Bergamo        | NULL       | 24100          |
| 11            | 10280      | BERGS      | 1996-08-14 00:00:00.000 | 1996-09-11 00:00:00.000 | 1996-09-12 00:00:00.000 | 1       | 8.98    | Berglunds snabbköp           | Berguvsvägen 8          | Luleå          | NULL       | S-958 22       |
| 12            | 10281      | ROMEY      | 1996-08-14 00:00:00.000 | 1996-08-28 00:00:00.000 | 1996-08-21 00:00:00.000 | 1       | 2.94    | Romero y tomillo             | Gran Vía, 1             | Madrid         | NULL       | 28001          |
| 13            | 10282      | ROMEY      | 1996-08-15 00:00:00.000 | 1996-09-12 00:00:00.000 | 1996-08-21 00:00:00.000 | 1       | 12.69   | Romero y tomillo             | Gran Vía, 1             | Madrid         | NULL       | 28001          |
| 14            | 10284      | LEHMS      | 1996-08-19 00:00:00.000 | 1996-09-16 00:00:00.000 | 1996-08-27 00:00:00.000 | 1       | 76.56   | Lehmanns Marktstand          | Magazinweg 7            | Frankfurt a.M. | NULL       | 60528          |
| 15            | 10288      | REGGC      | 1996-08-23 00:00:00.000 | 1996-09-20 00:00:00.000 | 1996-09-03 00:00:00.000 | 1       | 7.45    | Reggiani Caseifici           | Strada Provinciale 124  | Reggio Emilia  | NULL       | 42100          |
| 16            | 10290      | COMMI      | 1996-08-27 00:00:00.000 | 1996-09-24 00:00:00.000 | 1996-09-03 00:00:00.000 | 1       | 79.70   | Comércio Mineiro             | Av. dos Lusíadas, 23    | Sao Paulo      | SP         | 05432-043      |

Query executed successfully. | X205-64472 (15.0 RTM) | ARA\gar0310 (71) | NORTHWND\_DE103 | 00:00:00 | 249 rows

7. Create a view called EmployeeTerritory\_view that shows employees and the territories they are associated with. Include all columns from the Employee table and just the TerritoryDescription column from the Territory table. Selecting all records from the view will result in 49 rows. (8 marks)

```

31 CREATE VIEW EmployeeTerritory_view AS
32 select Employee.*, Territory.TerritoryDescription
33 from Employee
34 INNER JOIN EmployeeTerritory
35 ON EmployeeTerritory.Employeeid = Employee.Employeeid
36 INNER JOIN Territory
37 ON EmployeeTerritory.Territoryid = Territory.Territoryid;
38
39 SELECT * FROM EmployeeTerritory_view
40
41

```

| EmployeeID | LastName  | FirstName | Title                 | TitleOfCourtesy | BirthDate               | HireDate                | Address                    | City     | Region | PostalCode | Country | HomePhone      |
|------------|-----------|-----------|-----------------------|-----------------|-------------------------|-------------------------|----------------------------|----------|--------|------------|---------|----------------|
| 1          | Davolio   | Nancy     | Sales Representative  | Ms.             | 1948-12-08 00:00:00.000 | 1992-05-01 00:00:00.000 | 507 - 20th Ave. E. Apt. 2A | Seattle  | WA     | 98122      | USA     | (206) 555-9876 |
| 2          | Davolio   | Nancy     | Sales Representative  | Ms.             | 1948-12-08 00:00:00.000 | 1992-05-01 00:00:00.000 | 507 - 20th Ave. E. Apt. 2A | Seattle  | WA     | 98122      | USA     | (206) 555-9876 |
| 3          | Fuller    | Andrew    | Vice President, Sales | Dr.             | 1952-02-19 00:00:00.000 | 1992-08-14 00:00:00.000 | 908 W. Capital Way         | Tacoma   | WA     | 98401      | USA     | (206) 555-9411 |
| 4          | Fuller    | Andrew    | Vice President, Sales | Dr.             | 1952-02-19 00:00:00.000 | 1992-08-14 00:00:00.000 | 908 W. Capital Way         | Tacoma   | WA     | 98401      | USA     | (206) 555-9411 |
| 5          | Fuller    | Andrew    | Vice President, Sales | Dr.             | 1952-02-19 00:00:00.000 | 1992-08-14 00:00:00.000 | 908 W. Capital Way         | Tacoma   | WA     | 98401      | USA     | (206) 555-9411 |
| 6          | Fuller    | Andrew    | Vice President, Sales | Dr.             | 1952-02-19 00:00:00.000 | 1992-08-14 00:00:00.000 | 908 W. Capital Way         | Tacoma   | WA     | 98401      | USA     | (206) 555-9411 |
| 7          | Fuller    | Andrew    | Vice President, Sales | Dr.             | 1952-02-19 00:00:00.000 | 1992-08-14 00:00:00.000 | 908 W. Capital Way         | Tacoma   | WA     | 98401      | USA     | (206) 555-9411 |
| 8          | Fuller    | Andrew    | Vice President, Sales | Dr.             | 1952-02-19 00:00:00.000 | 1992-08-14 00:00:00.000 | 908 W. Capital Way         | Tacoma   | WA     | 98401      | USA     | (206) 555-9411 |
| 9          | Fuller    | Andrew    | Vice President, Sales | Dr.             | 1952-02-19 00:00:00.000 | 1992-08-14 00:00:00.000 | 908 W. Capital Way         | Tacoma   | WA     | 98401      | USA     | (206) 555-9411 |
| 10         | Leverling | Janet     | Sales Representative  | Ms.             | 1963-08-30 00:00:00.000 | 1992-04-01 00:00:00.000 | 722 Moss Bay Blvd.         | Kirkland | WA     | 98033      | USA     | (206) 555-3411 |
| 11         | Leverling | Janet     | Sales Representative  | Ms.             | 1963-08-30 00:00:00.000 | 1992-04-01 00:00:00.000 | 722 Moss Bay Blvd.         | Kirkland | WA     | 98033      | USA     | (206) 555-3411 |
| 12         | Leverling | Janet     | Sales Representative  | Ms.             | 1963-08-30 00:00:00.000 | 1992-04-01 00:00:00.000 | 722 Moss Bay Blvd.         | Kirkland | WA     | 98033      | USA     | (206) 555-3411 |
| 13         | Leverling | Janet     | Sales Representative  | Ms.             | 1963-08-30 00:00:00.000 | 1992-04-01 00:00:00.000 | 722 Moss Bay Blvd.         | Kirkland | WA     | 98033      | USA     | (206) 555-3411 |

Query executed successfully. | LAPTOP-2LTHJAE8 (15.0 RTM) | LAPTOP-2LTHJAE8\gabri ... | NORTHWND\_DE103 | 00:00:00 | 49 rows

8. Create a query that lists employees associated with the Redmond or Colorado Springs territories. Use your EmployeeTerritory\_view view for this query. There are 2 rows in the results. (4 marks)

```

43 SELECT * FROM EmployeeTerritory_view
44 WHERE TerritoryDescription='Colorado Springs' or TerritoryDescription='Redmond';
45
46
47

```

99 %

Results Messages

|   | EmployeeID | LastName | FirstName | Title                | TitleOfCourtesy | BirthDate               | HireDate                | Address                       | City   | Region | PostalCode | Country | HomePhone   |
|---|------------|----------|-----------|----------------------|-----------------|-------------------------|-------------------------|-------------------------------|--------|--------|------------|---------|-------------|
| 1 | 6          | Suyama   | Michael   | Sales Representative | Mr.             | 1963-07-02 00:00:00.000 | 1993-10-17 00:00:00.000 | Coventry House Miner Rd.      | London | NULL   | EC2 7JR    | UK      | (71) 555-77 |
| 2 | 7          | King     | Robert    | Sales Representative | Mr.             | 1960-05-29 00:00:00.000 | 1994-01-02 00:00:00.000 | Edgeham Hollow Winchester Way | London | NULL   | RG1 9SP    | UK      | (71) 555-55 |

Query executed successfully. | LAPTOP-2LTHJAE8 (15.0 RTM) | LAPTOP-2LTHJAE8\gabri ... | NORTHWND\_DE103 | 00:00:00 | 2 rows

9. Create a *materialised* view called ProductCategory\_mview that contains all records from the Category table and the related Products. The view can contain all columns from these tables, except that the primary key of Category should not appear twice and the category description and picture are not needed. (12 marks)

```

50 CREATE VIEW ProductCategory_mview AS
51 SELECT Product.*, Category.CategoryName FROM Product
52 INNER JOIN Category
53 ON Category.CategoryID = Product.CategoryID;
54
55 SELECT * FROM ProductCategory_mview

```

120 %

Results Messages

|    | ProductID | ProductName                     | SupplierID | CategoryID | QuantityPerUnit     | UnitPrice | UnitsInStock | UnitsOnOrder | ReorderLevel | Discontinued | CategoryName   |
|----|-----------|---------------------------------|------------|------------|---------------------|-----------|--------------|--------------|--------------|--------------|----------------|
| 1  | 1         | Chai                            | 1          | 1          | 10 boxes x 20 bags  | 18.00     | 39           | 0            | 10           | 0            | Beverages      |
| 2  | 2         | Chang                           | 1          | 1          | 24 - 12 oz bottles  | 19.00     | 17           | 40           | 25           | 0            | Beverages      |
| 3  | 3         | Aniseed Syrup                   | 1          | 2          | 12 - 550 ml bottles | 10.00     | 13           | 70           | 25           | 0            | Condiments     |
| 4  | 4         | Chef Anton's Cajun Seasoning    | 2          | 2          | 48 - 6 oz jars      | 22.00     | 53           | 0            | 0            | 0            | Condiments     |
| 5  | 5         | Chef Anton's Gumbo Mix          | 2          | 2          | 36 boxes            | 21.35     | 0            | 0            | 0            | 1            | Condiments     |
| 6  | 6         | Grandma's Boysenberry Spread    | 3          | 2          | 12 - 8 oz jars      | 25.00     | 120          | 0            | 25           | 0            | Condiments     |
| 7  | 7         | Uncle Bob's Organic Dried Pears | 3          | 7          | 12 - 1 lb pkgs.     | 30.00     | 15           | 0            | 10           | 0            | Produce        |
| 8  | 8         | Northwoods Cranberry Sauce      | 3          | 2          | 12 - 12 oz jars     | 40.00     | 6            | 0            | 0            | 0            | Condiments     |
| 9  | 9         | Mishi Kobe Niku                 | 4          | 6          | 18 - 500 g pkgs.    | 97.00     | 29           | 0            | 0            | 1            | Meat/Poultry   |
| 10 | 10        | Ikura                           | 4          | 8          | 12 - 200 ml jars    | 31.00     | 31           | 0            | 0            | 0            | Seafood        |
| 11 | 11        | Queso Cabrales                  | 5          | 4          | 1 kg pkg.           | 21.00     | 22           | 30           | 30           | 0            | Dairy Products |
| 12 | 12        | Queso Manchego La Pastora       | 5          | 4          | 10 - 500 g pkgs.    | 38.00     | 86           | 0            | 0            | 0            | Dairy Products |
| 13 | 13        | Konbu                           | 6          | 8          | 2 kg box            | 6.00      | 24           | 0            | 5            | 0            | Seafood        |
| 14 | 14        | Tofu                            | 6          | 7          | 40 - 100 g pkgs.    | 23.25     | 35           | 0            | 0            | 0            | Produce        |

Query executed successfully. | LAPTOP-2LTHJAE8 (15.0 RTM) | LAPTOP-2LTHJAE8\gabri ... | NORTHWND\_DE103 | 00:00:00 | 77 rows

10. Create a query that lists information about products that need to be reordered (which happens when the units in stock drop to the reorder level), using ProductCategory\_mview in the query. Sort the results by the category name followed by the number of units in stock. (4 marks)

```

59
60 SELECT * FROM ProductCategory_mview
61 ORDER BY CategoryName, UnitsInStock;

```

119 %

Results Messages

|    | ProductID | ProductName               | SupplierID | CategoryID | QuantityPerUnit     | UnitPrice | UnitsInStock | UnitsOnOrder | ReorderLevel | Discontinued | CategoryName |
|----|-----------|---------------------------|------------|------------|---------------------|-----------|--------------|--------------|--------------|--------------|--------------|
| 1  | 70        | Outback Lager             | 7          | 1          | 24 - 355 ml bottles | 15.00     | 15           | 10           | 30           | 0            | Beverages    |
| 2  | 43        | Iphoh Coffee              | 20         | 1          | 16 - 500 g tins     | 46.00     | 17           | 10           | 25           | 0            | Beverages    |
| 3  | 2         | Chang                     | 1          | 1          | 24 - 12 oz bottles  | 19.00     | 17           | 40           | 25           | 0            | Beverages    |
| 4  | 38        | Côte de Blaye             | 18         | 1          | 12 - 75 cl bottles  | 263.50    | 17           | 0            | 15           | 0            | Beverages    |
| 5  | 35        | Steeleye Stout            | 16         | 1          | 24 - 12 oz bottles  | 18.00     | 20           | 0            | 15           | 0            | Beverages    |
| 6  | 24        | Guaraná Fantástica        | 10         | 1          | 12 - 355 ml cans    | 4.50      | 20           | 0            | 0            | 1            | Beverages    |
| 7  | 1         | Chai                      | 1          | 1          | 10 boxes x 20 bags  | 18.00     | 39           | 0            | 10           | 0            | Beverages    |
| 8  | 67        | Laughing Lumberjack Lager | 16         | 1          | 24 - 12 oz bottles  | 14.00     | 52           | 0            | 10           | 0            | Beverages    |
| 9  | 76        | Lakkalikööri              | 23         | 1          | 500 ml              | 18.00     | 57           | 0            | 20           | 0            | Beverages    |
| 10 | 39        | Chartreuse verte          | 18         | 1          | 750 cc per bottle   | 18.00     | 69           | 0            | 5            | 0            | Beverages    |
| 11 | 34        | Sasquatch Ale             | 16         | 1          | 24 - 12 oz bottles  | 14.00     | 111          | 0            | 15           | 0            | Beverages    |
| 12 | 75        | Rhönbräu Klosterbier      | 12         | 1          | 24 - 0.5 l bottles  | 7.75      | 125          | 0            | 25           | 0            | Beverages    |
| 13 | 5         | Chef Anton's Gumbo Mix    | 2          | 2          | 36 boxes            | 21.35     | 0            | 0            | 0            | 1            | Condiments   |
| 14 | 66        | Louisiana Hot Spiced Okra | 2          | 2          | 24 - 8 oz jars      | 17.00     | 4            | 100          | 20           | 0            | Condiments   |

Query executed successfully. LAPTOP-2LTHJAE8 (15.0 RTM) LAPTOP-2LTHJAE8\gabri ... NORTHWND\_DE103 00:00:00 77 rows

11. Create a view called FullOrderInformation\_view that contains just these columns in this order: OrderDetailID, OrderDate, CustomerID, Customer's CompanyName, Employee's full name (concatenated), RequiredDate, the number of order items on the order (call it NumberOfOrderItems), Freight, and Shipper's CompanyName. (16 marks)

```

65 CREATE VIEW FullOrderInformation_view AS
66 SELECT OrderDetail.OrderDetailID, OrderDetail.OrderDate, OrderDetail.CustomerID, Customer.CompanyName, CONCAT
   (Employee.FirstName, ' ', Employee.LastName) AS EmployeeFullName, OrderDetail.RequiredDate, OrderItem.Quantity AS
   NumberOfOrderItems, OrderDetail.Freight, OrderDetail.ShipName AS ShipperCompanyName
67 FROM OrderDetail
68 INNER JOIN Employee
69     ON Employee.EmployeeID =OrderDetail.EmployeeID
70 INNER JOIN Customer
71     ON OrderDetail.CustomerID =Customer.CustomerID
72 INNER JOIN OrderItem
73     ON OrderDetail.OrderDetailID =OrderItem.OrderDetailID;
74 SELECT * FROM FullOrderInformation_view

```

119 %

Results Messages

|    | OrderDetailID | OrderDate               | CustomerID | CompanyName               | EmployeeFullName | RequiredDate            | NumberOfOrderItems | Freight | ShipperCompanyName        |
|----|---------------|-------------------------|------------|---------------------------|------------------|-------------------------|--------------------|---------|---------------------------|
| 1  | 10248         | 1996-07-04 00:00:00.000 | VINET      | Vins et alcools Chevalier | Steven Buchanan  | 1996-08-01 00:00:00.000 | 12                 | 32.38   | Vins et alcools Chevalier |
| 2  | 10248         | 1996-07-04 00:00:00.000 | VINET      | Vins et alcools Chevalier | Steven Buchanan  | 1996-08-01 00:00:00.000 | 10                 | 32.38   | Vins et alcools Chevalier |
| 3  | 10248         | 1996-07-04 00:00:00.000 | VINET      | Vins et alcools Chevalier | Steven Buchanan  | 1996-08-01 00:00:00.000 | 5                  | 32.38   | Vins et alcools Chevalier |
| 4  | 10249         | 1996-07-05 00:00:00.000 | TOMSP      | Toms Spezialitäten        | Michael Suyama   | 1996-08-16 00:00:00.000 | 9                  | 11.61   | Toms Spezialitäten        |
| 5  | 10249         | 1996-07-05 00:00:00.000 | TOMSP      | Toms Spezialitäten        | Michael Suyama   | 1996-08-16 00:00:00.000 | 40                 | 11.61   | Toms Spezialitäten        |
| 6  | 10250         | 1996-07-08 00:00:00.000 | HANAR      | Hanari Carnes             | Margaret Peacock | 1996-08-05 00:00:00.000 | 10                 | 65.83   | Hanari Carnes             |
| 7  | 10250         | 1996-07-08 00:00:00.000 | HANAR      | Hanari Carnes             | Margaret Peacock | 1996-08-05 00:00:00.000 | 35                 | 65.83   | Hanari Carnes             |
| 8  | 10250         | 1996-07-08 00:00:00.000 | HANAR      | Hanari Carnes             | Margaret Peacock | 1996-08-05 00:00:00.000 | 15                 | 65.83   | Hanari Carnes             |
| 9  | 10251         | 1996-07-08 00:00:00.000 | VICTE      | Victuailles en stock      | Janet Leverling  | 1996-08-05 00:00:00.000 | 6                  | 41.34   | Victuailles en stock      |
| 10 | 10251         | 1996-07-08 00:00:00.000 | VICTE      | Victuailles en stock      | Janet Leverling  | 1996-08-05 00:00:00.000 | 15                 | 41.34   | Victuailles en stock      |
| 11 | 10251         | 1996-07-08 00:00:00.000 | VICTE      | Victuailles en stock      | Janet Leverling  | 1996-08-05 00:00:00.000 | 20                 | 41.34   | Victuailles en stock      |
| 12 | 10252         | 1996-07-09 00:00:00.000 | SUPRD      | Suprêmes délices          | Margaret Peacock | 1996-08-06 00:00:00.000 | 40                 | 51.30   | Suprêmes délices          |
| 13 | 10252         | 1996-07-09 00:00:00.000 | SUPRD      | Suprêmes délices          | Margaret Peacock | 1996-08-06 00:00:00.000 | 25                 | 51.30   | Suprêmes délices          |
| 14 | 10252         | 1996-07-09 00:00:00.000 | SUPRD      | Suprêmes délices          | Margaret Peacock | 1996-08-06 00:00:00.000 | 40                 | 51.30   | Suprêmes délices          |

Query executed successfully. LAPTOP-2LTHJAE8 (15.0 RTM) LAPTOP-2LTHJAE8\gabri ... NORTHWND\_DE103 00:00:00 2,155 rows



12. Using your `_view`, list the orders associated with Margaret Peacock (an employee). There are 156 rows in the results. (4 marks)

```

12 SELECT OrderDetailID, EmployeeFullName from FullOrderInformation_view
13 INTERSECT
14 SELECT OrderDetailID, EmployeeFullName FROM FullOrderInformation_view
15 where EmployeeFullName = 'Margaret Peacock';

```

119 %

Results Messages

|    | OrderDetailID | EmployeeFullName |
|----|---------------|------------------|
| 1  | 10250         | Margaret Peacock |
| 2  | 10252         | Margaret Peacock |
| 3  | 10257         | Margaret Peacock |
| 4  | 10259         | Margaret Peacock |
| 5  | 10260         | Margaret Peacock |
| 6  | 10261         | Margaret Peacock |
| 7  | 10267         | Margaret Peacock |
| 8  | 10281         | Margaret Peacock |
| 9  | 10282         | Margaret Peacock |
| 10 | 10284         | Margaret Peacock |
| 11 | 10288         | Margaret Peacock |
| 12 | 10294         | Margaret Peacock |
| 13 | 10298         | Margaret Peacock |

Query executed successfully. | LAPTOP-2LTHJAE8 (15.0 RTM) | LAPTOP-2LTHJAE8\gabri ... | NORTHWND\_DE103 | 00:00:00 | 156 rows

13. Create a view called `FullOrderItemInformation_view` that includes the columns from `OrderItem`, a calculated column giving the gross price of an order item (name it `GrossPrice`), and a calculated column giving the net price of an order item (name it `NetPrice`). The gross price is the unit price multiplied by the quantity. The net price is the gross price multiplied by  $(1 - \text{Discount})$ . (8 marks)

```

85 CREATE VIEW FullOrderItemInformation_view AS
86 SELECT OrderItem.*, OrderItem.UnitPrice* OrderItem.Quantity AS GrossPrice, OrderItem.UnitPrice* OrderItem.Quantity*(1-
    OrderItem.Discount) AS NetPrice FROM OrderItem;
87 SELECT * FROM FullOrderItemInformation_view;
88

```

119 %

Results Messages

|    | OrderDetailID | ProductID | UnitPrice | Quantity | Discount | GrossPrice | NetPrice |
|----|---------------|-----------|-----------|----------|----------|------------|----------|
| 1  | 10248         | 11        | 14.00     | 12       | 0        | 168.00     | 168      |
| 2  | 10248         | 42        | 9.80      | 10       | 0        | 98.00      | 98       |
| 3  | 10248         | 72        | 34.80     | 5        | 0        | 174.00     | 174      |
| 4  | 10249         | 14        | 18.60     | 9        | 0        | 167.40     | 167.4    |
| 5  | 10249         | 51        | 42.40     | 40       | 0        | 1696.00    | 1696     |
| 6  | 10250         | 41        | 7.70      | 10       | 0        | 77.00      | 77       |
| 7  | 10250         | 51        | 42.40     | 35       | 0.15     | 1484.00    | 1261.4   |
| 8  | 10250         | 65        | 16.80     | 15       | 0.15     | 252.00     | 214.2    |
| 9  | 10251         | 22        | 16.80     | 6        | 0.05     | 100.80     | 95.76    |
| 10 | 10251         | 57        | 15.60     | 15       | 0.05     | 234.00     | 222.3    |
| 11 | 10251         | 65        | 16.80     | 20       | 0        | 336.00     | 336      |
| 12 | 10252         | 20        | 64.80     | 40       | 0.05     | 2592.00    | 2462.4   |
| 13 | 10252         | 33        | 2.00      | 25       | 0.05     | 50.00      | 47.5     |
| 14 | 10252         | 60        | 27.20     | 40       | 0        | 1088.00    | 1088     |

Query executed successfully. | LAPTOP-2LTHJAE8 (15.0 RTM) | LAPTOP-2LTHJAE8\gabri ... | NORTHWND\_DE103 | 00:00:00 | 2,155 rows



14. Produce a report (result) showing the net price of the Laughing Lumberjack Lager product on OrderDetail #10911. In the results, show the OrderDetail ID, the name of the product, the quantity ordered and the net price. Use FullOrderItemInformation\_view in the query. (8 marks)

```
90
91 SELECT OrderDetailID, Product.ProductName, Quantity, NetPrice FROM FullOrderItemInformation_view
92 INNER JOIN Product
93     ON FullOrderItemInformation_view.ProductID =Product.ProductID
94     WHERE ProductName='Laughing Lumberjack Lager' AND OrderDetailID=10911;
95
```

119 %

Results Messages

|   | OrderDetailID | ProductName               | Quantity | NetPrice |
|---|---------------|---------------------------|----------|----------|
| 1 | 10911         | Laughing Lumberjack Lager | 15       | 210      |

15. Create a query that returns the total price of each order - in the results give each OrderDetailID and its total price. The query should only use views you have created - no tables. (8 marks)

```
98 SELECT OrderDetailID, NetPrice AS TotalPrice FROM FullOrderItemInformation_view;
99
```

119 %

Results Messages

|    | OrderDetailID | TotalPrice |
|----|---------------|------------|
| 1  | 10248         | 168        |
| 2  | 10248         | 98         |
| 3  | 10248         | 174        |
| 4  | 10249         | 167.4      |
| 5  | 10249         | 1696       |
| 6  | 10250         | 77         |
| 7  | 10250         | 1261.4     |
| 8  | 10250         | 214.2      |
| 9  | 10251         | 95.76      |
| 10 | 10251         | 222.3      |
| 11 | 10251         | 336        |
| 12 | 10252         | 2462.4     |
| 13 | 10252         | 47.5       |
| 14 | 10252         | 1088       |

Query executed successfully. | LAPTOP-2LTHJAE8 (15.0 RTM) | LAPTOP-2LTHJAE8\gabri ... | NORTHWND\_DE103 | 00:00:00 | 2,155 rows

16. Create an Admin role. Give it the rights to select, insert, and update data on all tables in the database. Create an SQL login and user called Jenny and assign them to the Admin role. This must be done via SQL code, not by using the GUI in SSMS. (4 marks)

```
25
26 CREATE LOGIN Jenny WITH PASSWORD='Jenny';
27 USE NORTHWND_DE103;
28 CREATE USER Jenny;
29 CREATE ROLE Admin;
30 ALTER ROLE Admin ADD MEMBER Jenny;
```

119 %

Messages

Commands completed successfully.

Completion time: 2022-11-16T14:49:55.5214072+13:00

17. Create two queries that could be used to check that Jenny can select data from the Product table, but not delete data from it. Log in as Jenny and test these queries. Take screenshots as evidence that the role and user have been created correctly. (4 marks)

The first screenshot shows a SQL query executed successfully, displaying a table of product data. The second screenshot shows the same query with a DELETE statement added, resulting in a permission denial error.

**Query 1: SELECT \* FROM Product;**

| ProductID | ProductName                     | SupplierID | CategoryID | QuantityPerUnit     | UnitPrice | UnitsInStock | UnitsOnOrder | ReorderLevel | Discontinued |
|-----------|---------------------------------|------------|------------|---------------------|-----------|--------------|--------------|--------------|--------------|
| 1         | Chai                            | 1          | 1          | 10 boxes x 20 bags  | 18.00     | 39           | 0            | 10           | 0            |
| 2         | Chang                           | 1          | 1          | 24 - 12 oz bottles  | 19.00     | 17           | 40           | 25           | 0            |
| 3         | Aniseed Syrup                   | 1          | 2          | 12 - 550 ml bottles | 10.00     | 13           | 70           | 25           | 0            |
| 4         | Chef Anton's Cajun Seasoning    | 2          | 2          | 48 - 6 oz jars      | 22.00     | 53           | 0            | 0            | 0            |
| 5         | Chef Anton's Gumbo Mix          | 2          | 2          | 36 boxes            | 21.35     | 0            | 0            | 0            | 1            |
| 6         | Grandma's Boysenberry Spread    | 3          | 2          | 12 - 8 oz jars      | 25.00     | 120          | 0            | 25           | 0            |
| 7         | Uncle Bob's Organic Dried Pears | 3          | 7          | 12 - 1 lb pkgs.     | 30.00     | 15           | 0            | 10           | 0            |
| 8         | Northwoods Cranberry Sauce      | 3          | 2          | 12 - 12 oz jars     | 40.00     | 6            | 0            | 0            | 0            |
| 9         | Mishi Kobe Niku                 | 4          | 6          | 18 - 500 g pkgs.    | 97.00     | 29           | 0            | 0            | 1            |
| 10        | Ikura                           | 4          | 8          | 12 - 200 ml jars    | 31.00     | 31           | 0            | 0            | 0            |
| 11        | Queso Cabrales                  | 5          | 4          | 1 kg pkg.           | 21.00     | 22           | 30           | 30           | 0            |
| 12        | Queso Manchego La Pastora       | 5          | 4          | 10 - 500 g pkgs.    | 38.00     | 86           | 0            | 0            | 0            |
| 13        | Konbu                           | 6          | 8          | 2 kg box            | 6.00      | 24           | 0            | 5            | 0            |
| 14        | Tofu                            | 6          | 7          | 40 - 100 g pkgs.    | 23.25     | 35           | 0            | 0            | 0            |

**Query 2: SELECT \* FROM Product; DELETE FROM Product;**

Msg 229, Level 14, State 5, Line 4  
The DELETE permission was denied on the object 'Product', database 'NORTHWND\_DE103', schema 'dbo'.

Completion time: 2022-11-24T14:42:40.1283032+13:00

18. Create a Manager role. Managers can only select data from all views that have been created – create the necessary SQL statements. They have no direct access to tables. Create an SQL login and user called Hemi and assign them the Manager role. This must be done via SQL code, not by using the GUI in SSMS. (4 marks)

Database Role Properties - Manager

Select a page

- General
- Securables**
- Extended Properties

Script Help

Database role name: Manager

Securables: Search...

|  | Schema | Name                          | Type |
|--|--------|-------------------------------|------|
|  | dbo    | EmployeeRestricted_view       | View |
|  | dbo    | EmployeeTerritory_view        | View |
|  | dbo    | FullOrderInformation_view     | View |
|  | dbo    | FullOrderItemInformation_view | View |
|  | dbo    | OrderShipping_view            | View |
|  | dbo    | ProductCategory_mview         | View |
|  | dbo    | UnshippedOrders_view          | View |

Permissions for dbo.EmployeeRestricted\_view: Column Permissions...

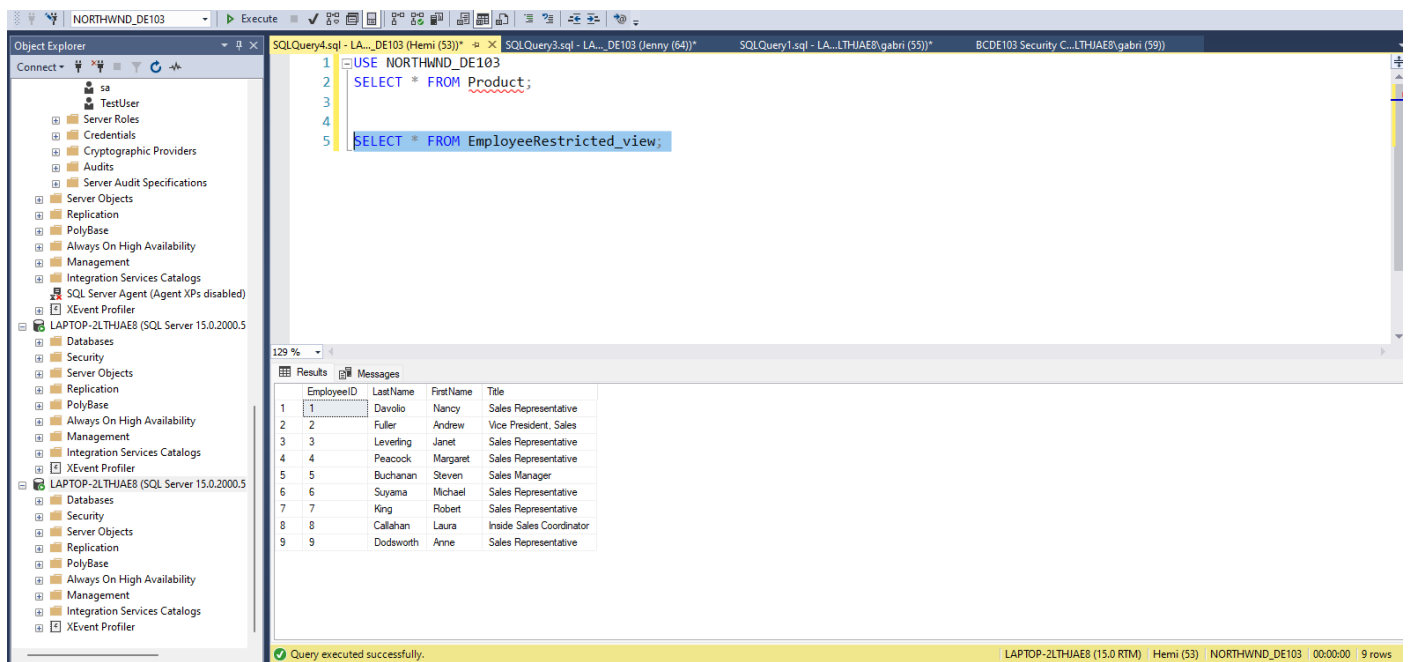
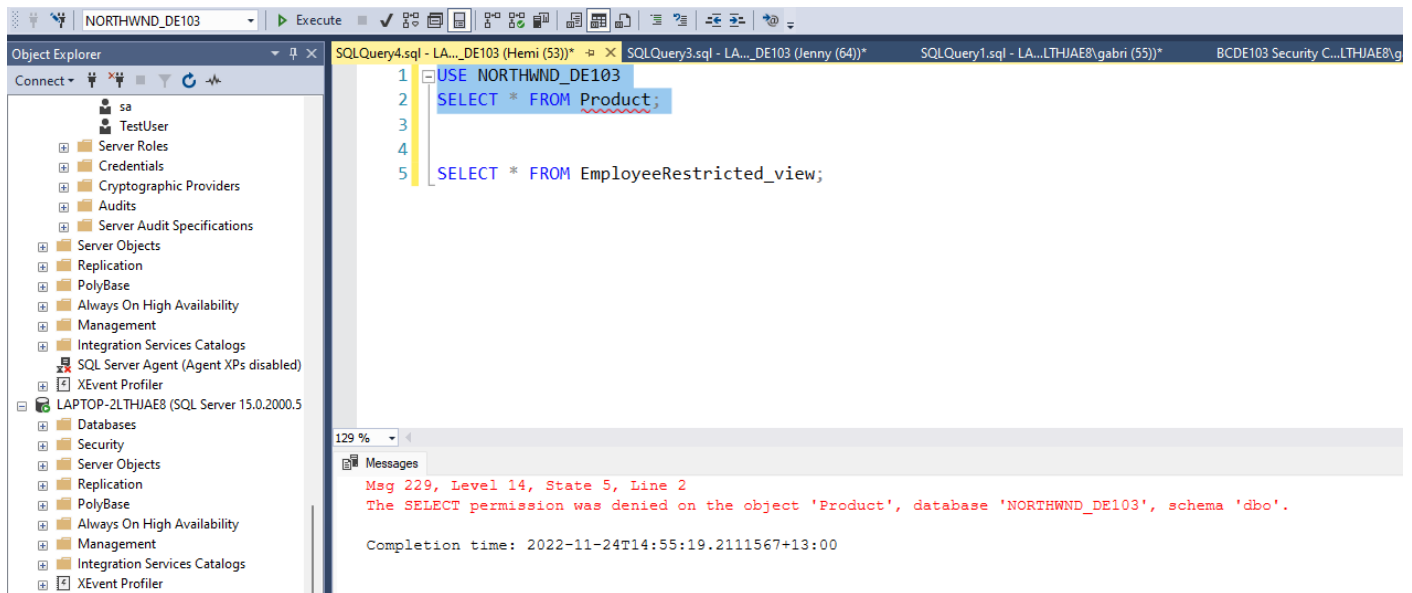
Explicit

| Permission           | Grantor | Grant                               | With Grant               | Deny                     |
|----------------------|---------|-------------------------------------|--------------------------|--------------------------|
| References           |         | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| Select               |         | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| Select               | dbo     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Take ownership       |         | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| Update               |         | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| View change track... |         | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
| View definition      |         | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |

OK Cancel

Please see code in the script

19. Create two queries that could be used to check that Hemi has no access to tables, but can select data via a view. Log in as Hemi and test these queries. Take screenshots as evidence that the role and user have been created correctly. (4 marks)



20. Write queries to create a view, role, login and user that can be used for data security. A user assigned to the role you create should only be able to see information about products that are supplied by companies in the UK. They should not be able to see the unit price. (8 marks)

The screenshot displays two instances of the SQL Server Enterprise Manager interface. The top instance shows a successful query execution, while the bottom instance shows a permission denial error.

**Top Screenshot: Successful Query Execution**

The query window shows the following SQL code:

```
1 USE NORTHWND_DE103
2
3 SELECT * FROM UKProducts_view;
```

The Results pane displays the following data:

| ProductID | ProductName                | SupplierID | CategoryID | QuantityPerUnit      | UnitsInStock | UnitsOnOrder | ReorderLevel | Discontinued | CompanyName              | ContactName      | ContactTitle         | Address        | City       |
|-----------|----------------------------|------------|------------|----------------------|--------------|--------------|--------------|--------------|--------------------------|------------------|----------------------|----------------|------------|
| 1         | Chai                       | 1          | 1          | 10 boxes x 20 bags   | 39           | 0            | 10           | 0            | Exotic Liquids           | Charlotte Cooper | Purchasing Manager   | 49 Gilbert St. | London     |
| 2         | Chang                      | 1          | 1          | 24 - 12 oz bottles   | 17           | 40           | 25           | 0            | Exotic Liquids           | Charlotte Cooper | Purchasing Manager   | 49 Gilbert St. | London     |
| 3         | Aniseed Syrup              | 1          | 2          | 12 - 550 ml bottles  | 13           | 70           | 25           | 0            | Exotic Liquids           | Charlotte Cooper | Purchasing Manager   | 49 Gilbert St. | London     |
| 4         | Teatime Chocolate Biscuits | 8          | 3          | 10 boxes x 12 pieces | 25           | 0            | 5            | 0            | Specialty Biscuits, Ltd. | Peter Wilson     | Sales Representative | 29 King's Way  | Manchester |
| 5         | Sir Rodney's Marmalade     | 8          | 3          | 30 gift boxes        | 40           | 0            | 0            | 0            | Specialty Biscuits, Ltd. | Peter Wilson     | Sales Representative | 29 King's Way  | Manchester |
| 6         | Sir Rodney's Scones        | 8          | 3          | 24 pkgs. x 4 pieces  | 3            | 40           | 5            | 0            | Specialty Biscuits, Ltd. | Peter Wilson     | Sales Representative | 29 King's Way  | Manchester |
| 7         | Scottish Longbreads        | 8          | 3          | 10 boxes x 8 pieces  | 6            | 10           | 15           | 0            | Specialty Biscuits, Ltd. | Peter Wilson     | Sales Representative | 29 King's Way  | Manchester |

**Bottom Screenshot: Permission Denial Error**

The query window shows the following SQL code:

```
1
2 USE NORTHWND_DE103
3 SELECT * FROM UKProducts_view;
4
5 SELECT * FROM EmployeeRestricted_view;
```

The Messages pane displays the following error message:

```
Msg 229, Level 14, State 5, Line 5
The SELECT permission was denied on the object 'EmployeeRestricted_view', database 'NORTHWND_DE103', schema 'dbo'.
```

Completion time: 2022-11-24T15:42:02.0893482+13:00