495-Database Project 4

Question 1:

a)

SQL-query（code）:

```
 (select
                        country as Country,isnull(education,'All_Customers') as Education,
                        (GE.Male+GE.Female) as All_Customers,Female,Male

      from
            (
   select
                         sum(case C.gender when 'M' then 1 else 0 end) as Male,
                         sum(case C.gender when 'F' then 1 else 0 end) as Female,
                         G.EnglishCountryRegionName as country,
                         C.EnglishEducation as education
            from dbo.DimCustomer as C inner join DimGeography as G
                  on C.GeographyKey=G.GeographyKey
            where G.EnglishCountryRegionName='France'
            group by G.EnglishCountryRegionName,
            rollup(C.Gender,C.EnglishEducation)) as GE

where GE.Male!=0 and GE.Female!=0)

union

 (select
                        country as Country,isnull(education,'All_Customers') as Education,
                        (GE.Male+GE.Female) as All_Customers,Female,Male

      from
            (
   select
                         sum(case C.gender when 'M' then 1 else 0 end) as Male,
                         sum(case C.gender when 'F' then 1 else 0 end) as Female,
                         G.EnglishCountryRegionName as country,
                         C.EnglishEducation as education
            from dbo.DimCustomer as C inner join DimGeography as G
                  on C.GeographyKey=G.GeographyKey
            where G.EnglishCountryRegionName='GERMANY'
            group by G.EnglishCountryRegionName,
            rollup(C.Gender,C.EnglishEducation)) as GE

where GE.Male!=0 and GE.Female!=0)
```

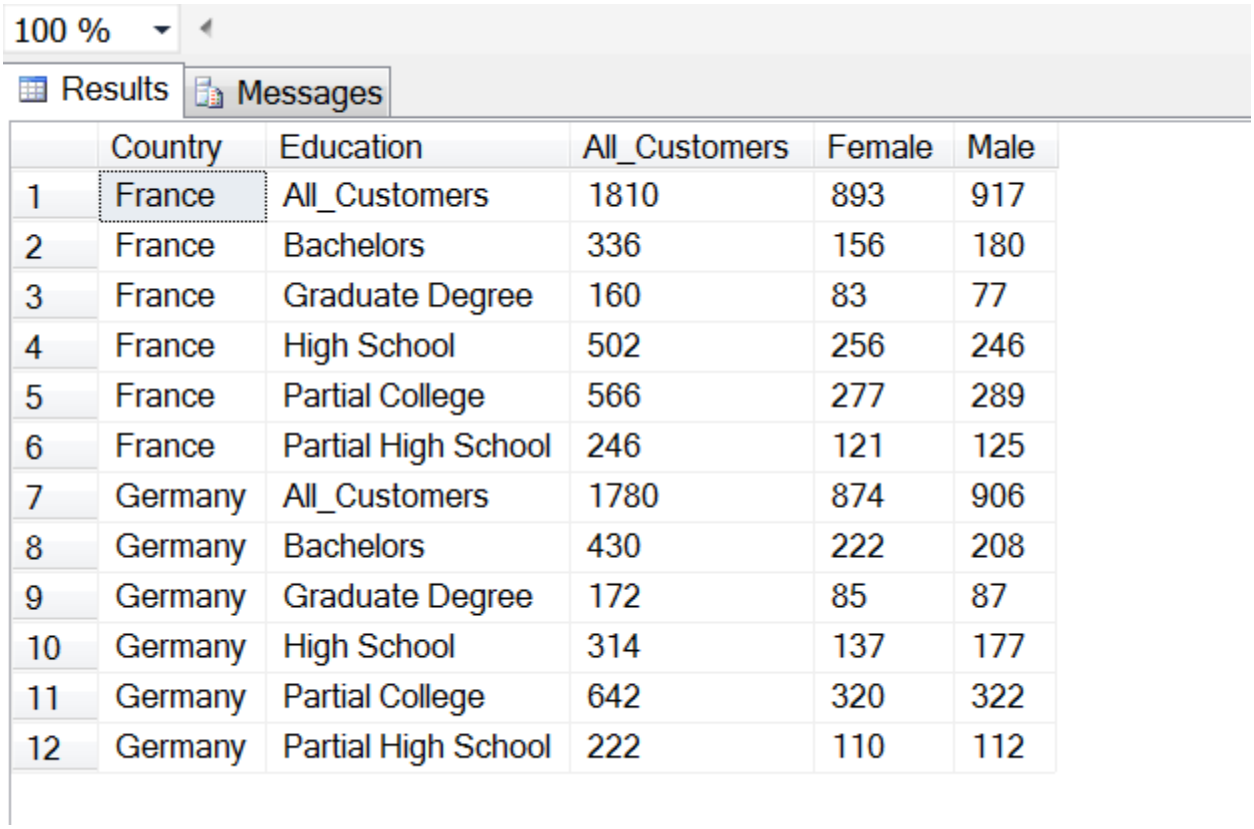
```
 union
   (select country as Country,education as Education,
                  (c.Male+c.Female) as AllCustomers,Female,Male

from(
          select G.EnglishCountryRegionName as country,
                              D.EnglishEducation as education,
                              sum(case D.gender when 'M' then 1 else 0 end) as Male,
                        sum(case D.gender when 'F' then 1 else 0 end) as Female
          from DimCustomer as D inner join DimGeography as G
                              on D.GeographyKey=G.GeographyKey
          where G.EnglishCountryRegionName='France'
          group by G.EnglishCountryRegionName,D.EnglishEducation,
     rollup(D.Gender)) as c
where c.Male!=0 and c.Female!=0)

union
(  select country as Country,education as Education,
                  (c.Male+c.Female) as AllCustomers,Female,Male

from(
          select G.EnglishCountryRegionName as country,
                              D.EnglishEducation as education,
                              sum(case D.gender when 'M' then 1 else 0 end) as Male,
                        sum(case D.gender when 'F' then 1 else 0 end) as Female
          from DimCustomer as D inner join DimGeography as G
                              on D.GeographyKey=G.GeographyKey
          where G.EnglishCountryRegionName='GERMANY'
          group by G.EnglishCountryRegionName,D.EnglishEducation,
     rollup(D.Gender)) as c
where c.Male!=0 and c.Female!=0)
```

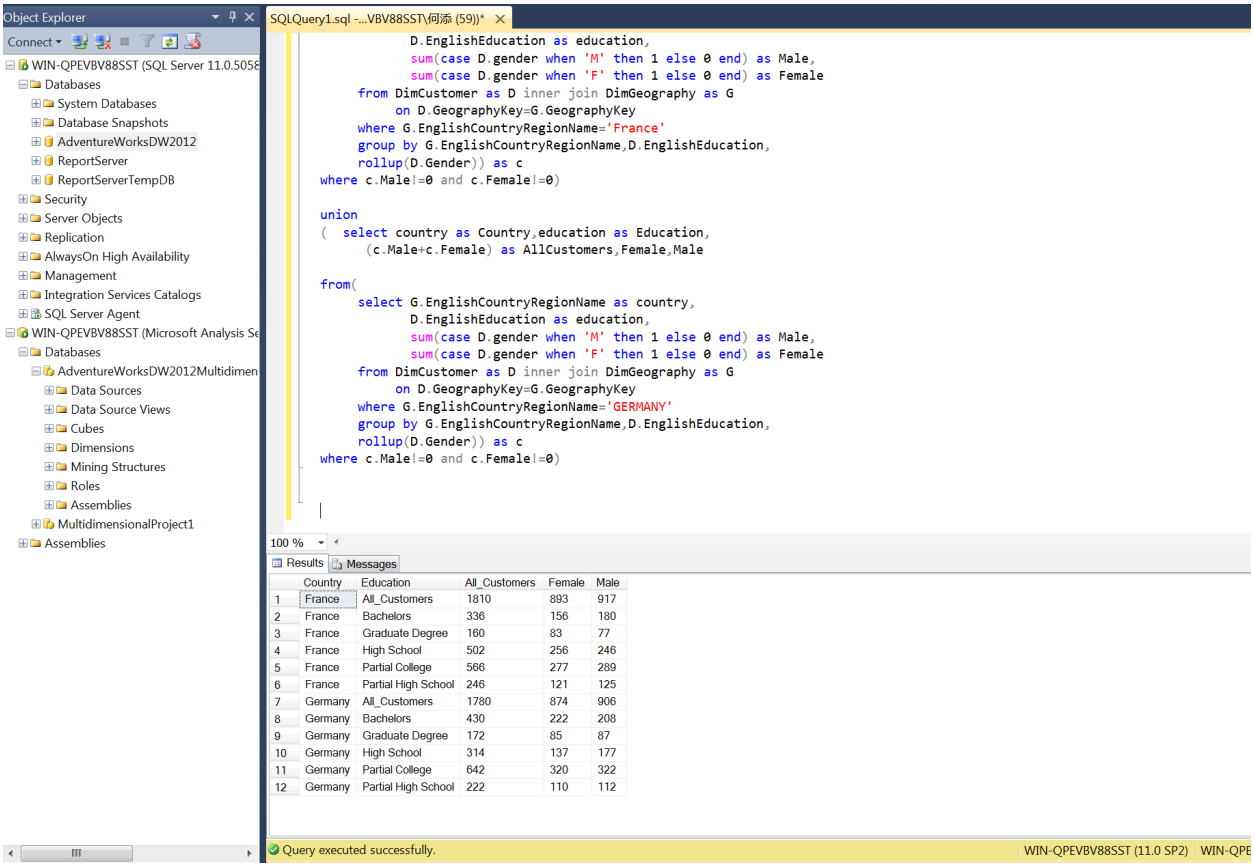
Output cross-table (screen shots):



100 %

Results | Messages

	Country	Education	All_Customers	Female	Male
1	France	All_Customers	1810	893	917
2	France	Bachelors	336	156	180
3	France	Graduate Degree	160	83	77
4	France	High School	502	256	246
5	France	Partial College	566	277	289
6	France	Partial High School	246	121	125
7	Germany	All_Customers	1780	874	906
8	Germany	Bachelors	430	222	208
9	Germany	Graduate Degree	172	85	87
10	Germany	High School	314	137	177
11	Germany	Partial College	642	320	322
12	Germany	Partial High School	222	110	112



Object Explorer

Connect

WIN-QPEVBV88SST (SQL Server 11.0.5058

Databases

System Databases

Database Snapshots

AdventureWorksDW2012

ReportServer

ReportServerTempDB

Security

Server Objects

Replication

AlwaysOn High Availability

Management

Integration Services Catalogs

SQL Server Agent

WIN-QPEVBV88SST (Microsoft Analysis Se

Databases

AdventureWorksDW2012Multidimen

Data Sources

Data Source Views

Cubes

Dimensions

Mining Structures

Roles

Assemblies

MultidimensionalProject1

Assemblies

SQLQuery1.sql -...VBV88SST\何添 (59))*

```
            D.EnglishEducation as education,
            sum(case D.gender when 'M' then 1 else 0 end) as Male,
            sum(case D.gender when 'F' then 1 else 0 end) as Female
      from DimCustomer as D inner join DimGeography as G
           on D.GeographyKey=G.GeographyKey
      where G.EnglishCountryRegionName='France'
      group by G.EnglishCountryRegionName,D.EnglishEducation,
      rollup(D.Gender)) as c
where c.Male!=0 and c.Female!=0)

union
(  select country as Country,education as Education,
       (c.Male+c.Female) as AllCustomers,Female,Male

from(
     select G.EnglishCountryRegionName as country,
            D.EnglishEducation as education,
            sum(case D.gender when 'M' then 1 else 0 end) as Male,
            sum(case D.gender when 'F' then 1 else 0 end) as Female
      from DimCustomer as D inner join DimGeography as G
           on D.GeographyKey=G.GeographyKey
      where G.EnglishCountryRegionName='GERMANY'
      group by G.EnglishCountryRegionName,D.EnglishEducation,
      rollup(D.Gender)) as c
where c.Male!=0 and c.Female!=0)
```

100 %

Results | Messages

	Country	Education	All_Customers	Female	Male
1	France	All_Customers	1810	893	917
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12	Germany	Partial High School	222	110	112

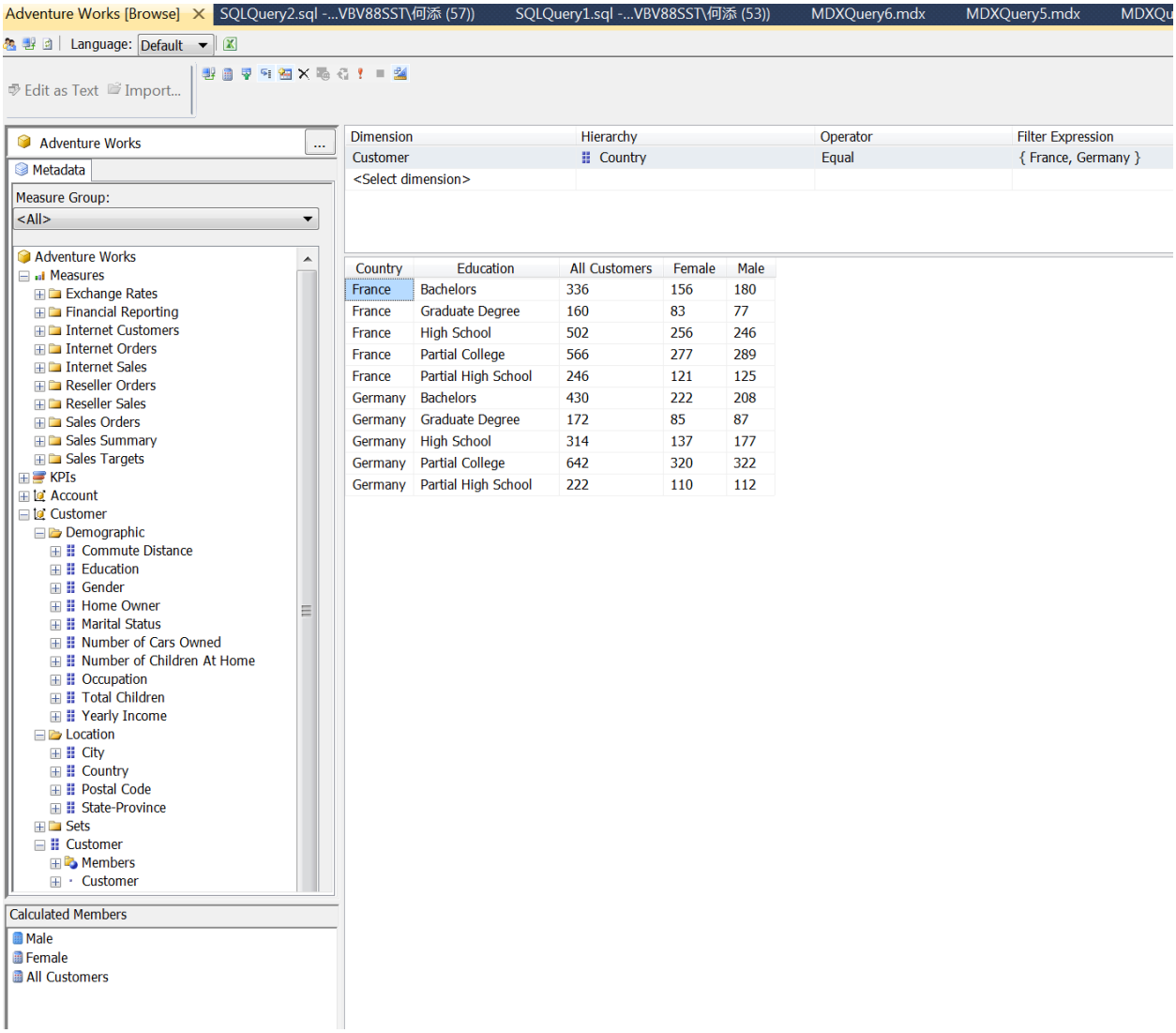
Query executed successfully.

WIN-QPEVBV88SST (11.0 SP2) WIN-QPE

b) Create the cross-tabulation using the cube browser (screen shots):

Dimension	Hierarchy	Operator	Filter Expression
Customer	Country	Equal	{ France, Germany }
<Select dimension>			

Country	Education	All Customers	Female	Male
France	Bachelors	336	156	180
France	Graduate Degree	160	83	77
France	High School	502	256	246
France	Partial College	566	277	289
France	Partial High School	246	121	125
Germany	Bachelors	430	222	208
Germany	Graduate Degree	172	85	87
Germany	High School	314	137	177
Germany	Partial College	642	320	322
Germany	Partial High School	222	110	112

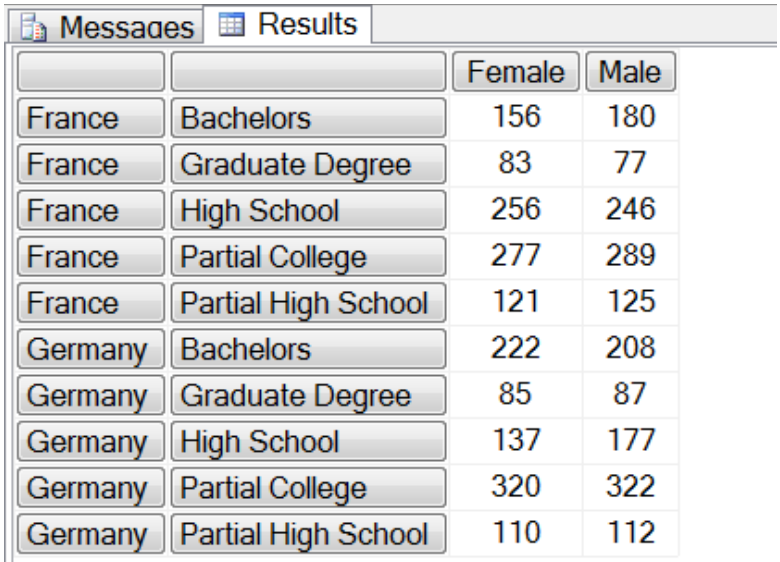


Question 2:

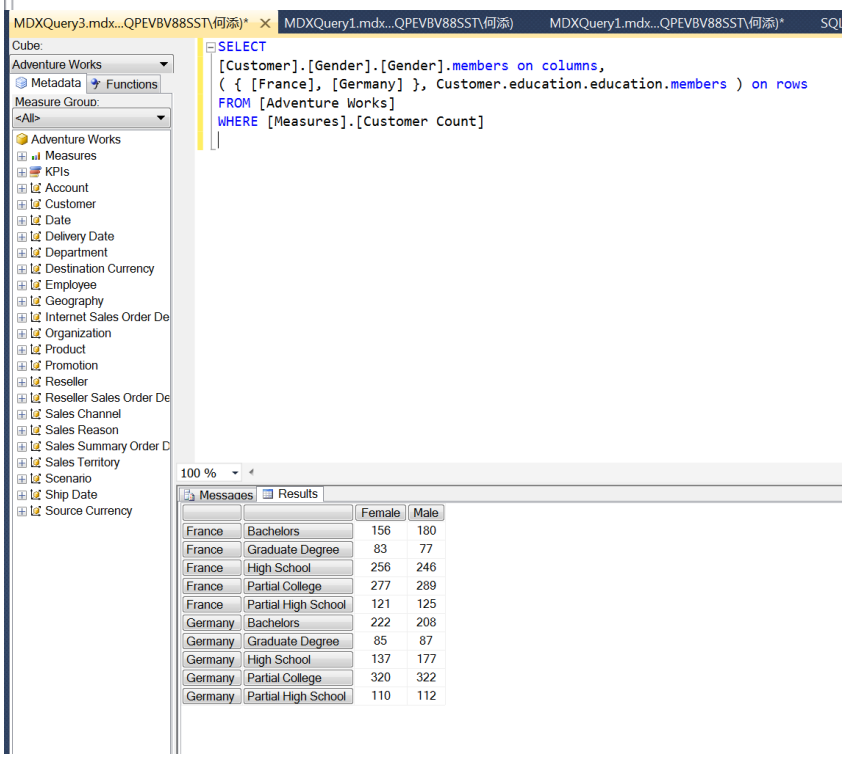
MDX-query (code) :

```
SELECT
[Customer].[Gender].[Gender].members on columns,
( { [France], [Germany] }, Customer.education.education.members ) on rows
FROM [Adventure Works]
WHERE [Measures].[Customer Count]
```

Cross-table (screen shots) :



		Female	Male
France	Bachelors	156	180
France	Graduate Degree	83	77
France	High School	256	246
France	Partial College	277	289
France	Partial High School	121	125
Germany	Bachelors	222	208
Germany	Graduate Degree	85	87
Germany	High School	137	177
Germany	Partial College	320	322
Germany	Partial High School	110	112



Question 3:

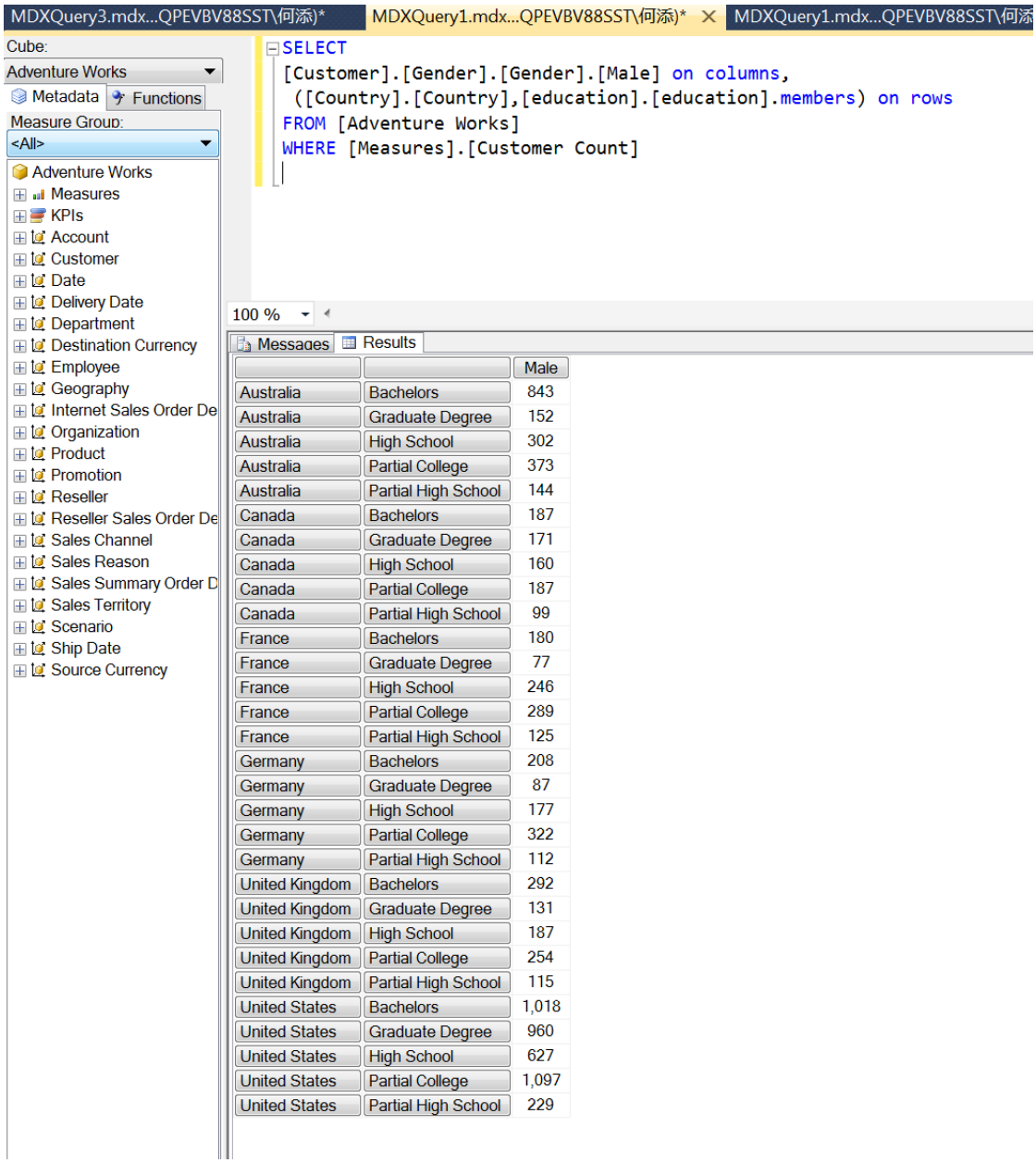
MDX-query (code):

```
SELECT
[Customer].[Gender].[Gender].[Male] on columns,
 ([Country].[Country],[education].[education].members) on rows
FROM [Adventure Works]
WHERE [Measures].[Customer Count]
```

Output Cross-table:

Messages | Results

		Male
Australia	Bachelors	843
Australia	Graduate Degree	152
Australia	High School	302
Australia	Partial College	373
Australia	Partial High School	144
Canada	Bachelors	187
Canada	Graduate Degree	171
Canada	High School	160
Canada	Partial College	187
Canada	Partial High School	99
France	Bachelors	180
France	Graduate Degree	77
France	High School	246
France	Partial College	289
France	Partial High School	125
Germany	Bachelors	208
Germany	Graduate Degree	87
Germany	High School	177
Germany	Partial College	322
Germany	Partial High School	112
United Kingdom	Bachelors	292
United Kingdom	Graduate Degree	131
United Kingdom	High School	187
United Kingdom	Partial College	254
United Kingdom	Partial High School	115
United States	Bachelors	1,018
United States	Graduate Degree	960
United States	High School	627
United States	Partial College	1,097
United States	Partial High School	229



		Male
Australia	Bachelors	843
Australia	Graduate Degree	152
Australia	High School	302
Australia	Partial College	373
Australia	Partial High School	144
Canada	Bachelors	187
Canada	Graduate Degree	171
Canada	High School	160
Canada	Partial College	187
Canada	Partial High School	99
France	Bachelors	180
France	Graduate Degree	77
France	High School	246
France	Partial College	289
France	Partial High School	125
Germany	Bachelors	208
Germany	Graduate Degree	87
Germany	High School	177
Germany	Partial College	322
Germany	Partial High School	112
United Kingdom	Bachelors	292
United Kingdom	Graduate Degree	131
United Kingdom	High School	187
United Kingdom	Partial College	254
United Kingdom	Partial High School	115
United States	Bachelors	1,018
United States	Graduate Degree	960
United States	High School	627
United States	Partial College	1,097
United States	Partial High School	229

Question 4:

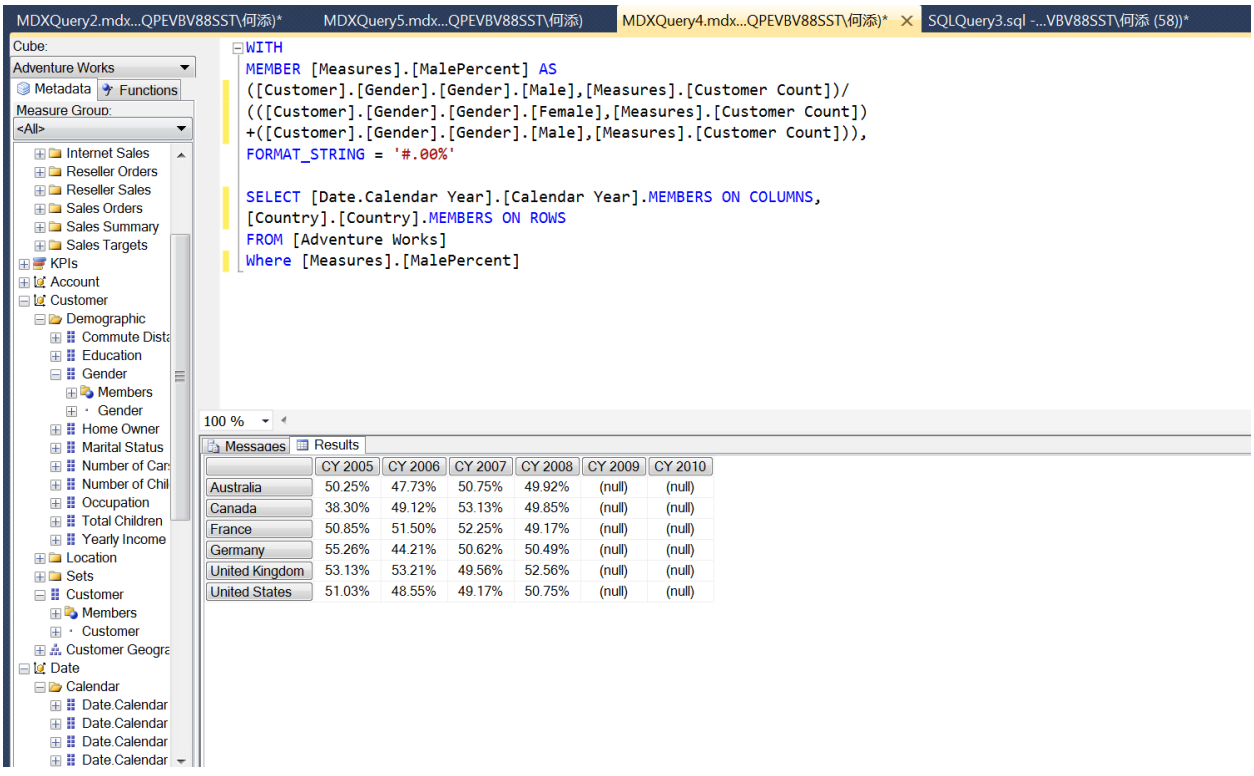
MDX-query (code) :

```
WITH
MEMBER [Measures].[MalePercent] AS
([Customer].[Gender].[Gender].[Male],[Measures].[Customer Count])/
(([Customer].[Gender].[Gender].[Female],[Measures].[Customer Count])+([Customer].[Gender].
[Gender].[Male],[Measures].[Customer Count])),
FORMAT_STRING = '#.00%'

SELECT [Date.Calendar Year].[Calendar Year].MEMBERS ON COLUMNS,
[Country].[Country].MEMBERS ON ROWS
FROM [Adventure Works]
Where [Measures].[MalePercent]
```

Output Cross-table:
(the percentage of males in the customer counts per country and year)

	CY 2005	CY 2006	CY 2007	CY 2008	CY 2009	CY 2010
Australia	50.25%	47.73%	50.75%	49.92%	(null)	(null)
Canada	38.30%	49.12%	53.13%	49.85%	(null)	(null)
France	50.85%	51.50%	52.25%	49.17%	(null)	(null)
Germany	55.26%	44.21%	50.62%	50.49%	(null)	(null)
United Kingdom	53.13%	53.21%	49.56%	52.56%	(null)	(null)
United States	51.03%	48.55%	49.17%	50.75%	(null)	(null)



Question 5：

MDX-query:

```
SELECT [Measures].[Internet Sales Amount] ON COLUMNS,
NON EMPTY ({ [France], [Germany] }, [city]. [city].members ) on rows
FROM [Adventure Works]
```

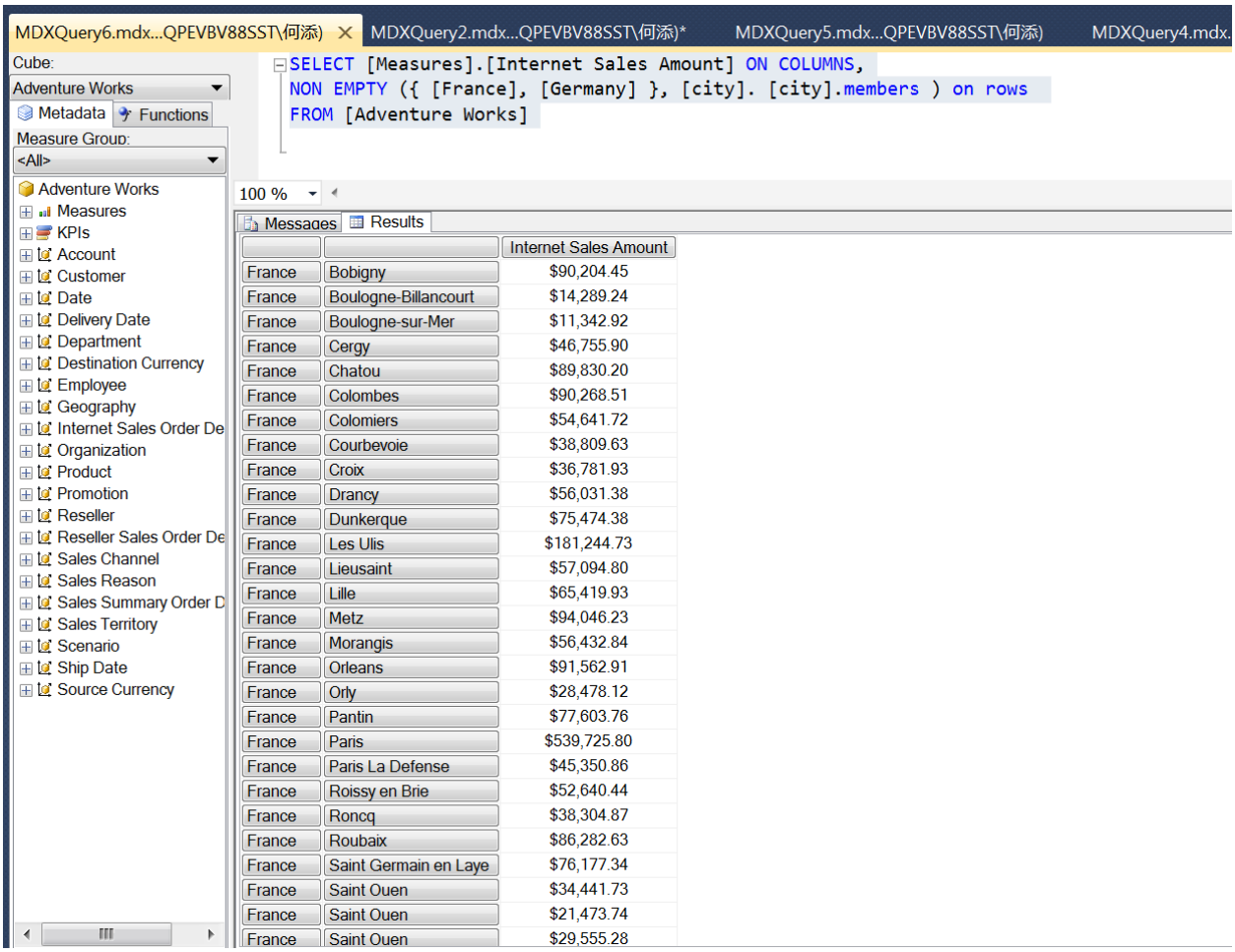
Output Cross-table:

(a list of the internet sales amount in all cities of France and Germany)

		Internet Sales Amount
France	Bobigny	$90,204.45
France	Boulogne-Billancourt	$14,289.24
France	Boulogne-sur-Mer	$11,342.92
France	Cergy	$46,755.90
France	Chatou	$89,830.20
France	Colombes	$90,268.51
France	Colomiers	$54,641.72
France	Courbevoie	$38,809.63
France	Croix	$36,781.93
France	Drancy	$56,031.38
France	Dunkerque	$75,474.38
France	Les Ulis	$181,244.73
France	Lieusaint	$57,094.80
France	Lille	$65,419.93
France	Metz	$94,046.23
France	Morangis	$56,432.84
France	Orleans	$91,562.91
France	Orly	$28,478.12
France	Pantin	$77,603.76
France	Paris	$539,725.80
France	Paris La Defense	$45,350.86
France	Roissy en Brie	$52,640.44
France	Roncq	$38,304.87
France	Roubaix	$86,282.63
France	Saint Germain en Laye	$76,177.34
France	Saint Ouen	$34,441.73
France	Saint Ouen	$21,473.74
France	Saint Ouen	$29,555.28

		Internet Sales Amou
France	Saint Ouen	$21,473.74
France	Saint Ouen	$29,555.28
France	Saint-Denis	$63,782.59
France	Sèvres	$39,598.20
France	Suresnes	$35,099.73
France	Tremblay-en-France	$91,857.57
France	Verrieres Le Buisson	$41,619.61
France	Versailles	$102,657.25
France	Villeneuve-d'Ascq	$89,136.45
Germany	Berlin	$102,668.50
Germany	Berlin	$32,596.49
Germany	Berlin	$49,670.21
Germany	Berlin	$75,995.42
Germany	Bonn	$20,637.05
Germany	Bonn	$22,068.18
Germany	Bottrop	$72,895.55
Germany	Braunschweig	$28,705.00
Germany	Darmstadt	$76,433.25
Germany	Dresden	$57,590.01
Germany	Duesseldorf	$59,787.49
Germany	Eilenburg	$57,919.21
Germany	Erlangen	$77,585.52
Germany	Essen	$55,349.62
Germany	Frankfurt	$67,852.63
Germany	Frankfurt	$116,439.96
Germany	Frankfurt am Main	$67,207.18
Germany	Frankfurt am Main	$42,914.35

		Internet Sales Amount
Germany	Frankfurt am Main	$42,914.35
Germany	Grevenbroich	$53,576.08
Germany	Hamburg	$47,116.49
Germany	Hamburg	$148,555.78
Germany	Hannover	$28,792.22
Germany	Hof	$91,915.14
Germany	Ingolstadt	$109,037.41
Germany	Kassel	$84,798.32
Germany	Kiel	$67,554.62
Germany	Leipzig	$60,193.26
Germany	Mühlheim	$52,821.22
Germany	München	$59,916.04
Germany	München	$62,085.04
Germany	München	$38,080.35
Germany	München	$162.99
Germany	Münster	$49,718.86
Germany	Neunkirchen	$93,896.67
Germany	Offenbach	$84,521.13
Germany	Paderborn	$39,873.50
Germany	Paderborn	$98,366.72
Germany	Poing	$40,132.90
Germany	Saarbrücken	$50,324.34
Germany	Saarlouis	$76,614.39
Germany	Salzgitter	$57,353.24
Germany	Solingen	$100,217.24
Germany	Stuttgart	$80,507.46
Germany	Sulzbach Taunus	$66,739.77
Germany	Werne	$67,125.55



		Internet Sales Amount
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France	Boulogne-Billancourt	$14,289.24
France	Boulogne-sur-Mer	$11,342.92
France	Cergy	$46,755.90
France	Chatou	$89,830.20
France	Colombes	$90,268.51
France	Colomiers	$54,641.72
France	Courbevoie	$38,809.63
France	Croix	$36,781.93
France	Drancy	$56,031.38
France	Dunkerque	$75,474.38
France	Les Ulis	$181,244.73
France	Lieusaint	$57,094.80
France	Lille	$65,419.93
France	Metz	$94,046.23
France	Morangis	$56,432.84
France	Orleans	$91,562.91
France	Orly	$28,478.12
France	Pantin	$77,603.76
France	Paris	$539,725.80
France	Paris La Defense	$45,350.86
France	Roissy en Brie	$52,640.44
France	Roncq	$38,304.87
France	Roubaix	$86,282.63
France	Saint Germain en Laye	$76,177.34
France	Saint Ouen	$34,441.73
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France	Saint Ouen	$29,555.28