DM LAB 7

BY

ENG. JOUD KHATTAB

EXERCISE

DOCTOR ASSISTANT DW

3 CUBE
VISIT CUBE

1. Get total Price and Visit Count for "Grain" Disease category according to each month.
2. Get total Price for all Disease Categories according to each month.
3. Get total Visit Count for all Disease and Months names.
4. Get total Visit Count for all disease categories and months names.
5. Get the relation between Disease and the children number in family.
6. Get the relation between Disease Category and Gender.

OLAP QUERY LANGUAGE

MDX (Multi Dimensional Expressions)

5 MDX (MULTI DIMENSIONAL EXPRESSIONS)

- Query language for OLAP cubes
- Similar but different from SQL

6 GETTING STARTED WITH MDX

- Let's start by outlining one of the simplest forms of an MDX expression.
- This is for an outline of an expression returning two cube dimensions.

```
SELECT axis specification ON COLUMNS ,
axis specification ON ROWS
FROM cube_name
WHERE slicer_specification
```

- Note: the slicer specification on the WHERE clause is actually optional.

7 OLAP QUERY LANGUAGE MDX (MULTI DIMENSIONAL EXPRESSIONS)

- Example query

```
SELECT
        { [Measures].[Store Sales] } ON COLUMNS ,
        { [Date].[2002], [Date].[2003] } ON ROWS
FROM Sales
WHERE ( [Store].[USA].[CA] ) ;
```

- In this example, the query defines the following result set information
  - The SELECT clause sets the query axes as the Store Sales member of the Measures dimension, and the 2002 and 2003 members of the Date dimension.
  - The FROM clause indicates that the data source is the Sales cube.
  - The WHERE clause defines the "slicer axis" as the California member of the Store dimension.

8 CUBE
VISIT CUBE

- Get total Price and Visit Count for "Grain" Disease category according to each month

```
SELECT
    { [Measures].[Price], [Measures].[Fact Visit Count] } ON COLUMNS ,
    { [Dim Date].[Month Name].CHILDREN } ON ROWS
FROM [VisitCube]
WHERE ( [Dim Disease].[Category].[Grain] ) ;
```

	Price	Fact Visit Count
April	48000	12
August	40000	12
December	28000	10
February	52000	16
January	38000	14
July	54000	22
June	38000	14
March	28000	12
May	52000	20
November	38000	14
October	56000	16
September	32000	10

9 CUBE
VISIT CUBE

- Get total Price for all Disease Categories according to each month

```
SELECT
NON EMPTY  { [Measures].[Price] } ON COLUMNS ,
NON EMPTY  { ( [Dim Date].[Month Name].CHILDREN * [Dim
Disease].[Category].CHILDREN ) } ON ROWS
FROM [VisitCube] ;
```

		Price
April	Beverages	48000
April	Cereals	42000
April	Confections	90000
April	Dairy	42000
April	Grain	48000
April	Meat	8000
April	Not Known	16000
April	Poultry	26000
April	Produce	34000
April	Seafood	40000
April	Shell fish	94000
April	Snails	50000
August	Beverages	52000
August	Cereals	36000
August	Confections	66000
August	Dairy	18000
August	Grain	40000

10 CUBE
VISIT CUBE

- Get total Visit Count for all Disease and Months names

```
SELECT
NON EMPTY  { [Measures].[Fact Visit Count] } ON COLUMNS ,
NON EMPTY  { ( [Dim Date].[Month Name].ALLMEMBERS *
[Dim Disease].[Name].ALLMEMBERS ) } ON ROWS
FROM [VisitCube] ;
```

		Fact Visit Count
All	All	2000
All	Abel575	2
All	Abel855	2
All	Abigail715	2
All	Adam446	2
All	Adrian819	2
All	Adriana	4
All	Adriana66	4
All	Adrienne69	2
All	Alan01	2
All	Albert	2
All	Albert33	2
All	Alberto4	2
All	Alberto5	2

11 CUBE
VISIT CUBE

- Get total Visit Count for all disease categories and months names

```
SELECT
NON EMPTY { [Measures].[Fact Visit Count] } ON COLUMNS ,
NON EMPTY { ( [Dim Date].[Month Name].ALLMEMBERS *
[Dim Disease].[Cateogry].ALLMEMBERS ) } ON ROWS
FROM [VisitCube] ;
```

		Fact Visit Count
All	All	2000
All	Beverages	176
All	Cereals	196
All	Confections	228
All	Dairy	172
All	Grain	172
All	Meat	170
All	Not Known	38
All	Poultry	142
All	Produce	156
All	Seafood	164
All	Shell fish	196
All	Snails	190
April	All	172

12 CUBE
VISIT CUBE

- Get the relation between Disease and the children number in family

```
SELECT
NON EMPTY  { [Measures].[Fact Visit Count] } ON COLUMNS ,
NON EMPTY  { ( [Dim Disease].[Category].CHILDREN *
[Dim Patient].[Children Number].CHILDREN ) } ON ROWS
FROM [VisitCube] ;
```

		Fact Visit Count
Beverages	1	26
Beverages	2	16
Beverages	3	30
Beverages	4	30
Beverages	5	20
Beverages	6	26
Beverages	7	28
Cereals	1	24
Cereals	2	42
Cereals	3	30
Cereals	4	32
Cereals	5	12
Cereals	6	28
Cereals	7	28
Confections	1	40

13 CUBE
VISIT CUBE

- Get the relation between Disease Category and Gender

```
SELECT
NON EMPTY { [Measures].[Fact Visit Count] } ON COLUMNS ,
NON EMPTY { ( [Dim Disease].[Category].CHILDREN *
[Dim Patient].[Gender].CHILDREN ) } ON ROWS
FROM [VisitCube] ;
```

		Fact Visit Count
Beverages	Female	94
Beverages	Male	82
Cereals	Female	108
Cereals	Male	88
Confections	Female	116
Confections	Male	112
Dairy	Female	82
Dairy	Male	90
Grain	Female	92
Grain	Male	80
Meat	Female	78
Meat	Male	92

HOMEWORK

15 HOMEWORK

- Build a new SSAS project that includes the Vaccine Cube.
- Apply the following queries both from the VS Cube and from SQL Server as a MDX query.
  1. Get total PatientVaccine Count for each vaccine
  2. Get total Price and PatientVaccine Counts for a specific Vaccine from your choice for each day