Hurtownie danych Laboratorium Czw 11:15

Lista 7

Kajetan Pynka 254495

Zad. 1.

Name:	
[Avg Order Qty Per Transaction]	
↑ Parent Properties	
Parent hierarchy: Measures	
Parent member:	Change
★ Expression	
[Measures].[Order Qty] / [Measures].[FACT SALES Count]	
⊗ Nie znaleziono żadnych problemów	
Name:	
Name: [Weighted avg]	
[Weighted avg]	
[Weighted avg]	
[Weighted avg] ☆ Parent Properties Parent hierarchy: Measures	
[Weighted avg]	Change
[Weighted avg] ☆ Parent Properties Parent hierarchy: Measures	Change
[Weighted avg] ↑ Parent Properties Parent hierarchy: Parent member:	Change

Zad. 2.1.

SELECT {[Measures].[Customer ID Distinct Count]} ON COLUMNS,
{[DIM CUSTOMER].[Country Region Code].CHILDREN} ON ROWS
FROM [AW_2019_DSV];

e M	lessages	⊞ Results				
	Customer	r ID Distinct Coun	t			
AU	3625					
CA	1677					
DE		1812				
FR		1844				
GB		1951				
US		8210				

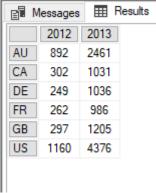
Zad. 2.2.

```
SELECT {[Order Date].[Rok].&[2012], [Order Date].[Rok].&[2013]} ON COLUMNS,

{[DIM CUSTOMER].[Country Region Code].CHILDREN} ON ROWS

FROM [AW_2019_DSV]

WHERE [Measures].[Customer ID Distinct Count];
```



Zad. 2.3.

SELECT CROSSJOIN({[Order Date].[Rok].&[2012], [Order
Date].[Rok].&[2013]},
{[Measures].[Customer ID Distinct Count],
<pre>[Measures].[Order Qty]})</pre>
ON COLUMNS,
{[DIM CUSTOMER].[Country Region Code].CHILDREN} ON ROWS
FROM [AW_2019_DSV];

B _i N	lessages III Results			
	2012	2012	2013	2013
	Customer ID Distinct Count	D Distinct Count Order Qty Customer ID Distinct Count		Order Qty
AU	892	892	2461	9459
CA	302	14412	1031	22553
DE	249	249	1036	8140
FR	262	3472	986	11113
GB	297	3132	1205	10756
US	1160	46422	4376	69767

Zad. 2.4.

```
SELECT {[DIM CUSTOMER].[Country Region Code].CHILDREN} ON COLUMNS, {[DIM PRODUCT].[Category Name].CHILDREN*[DIM PRODUCT].[Sub Category Name].CHILDREN} ON ROWS
FROM [AW_2019_DSV]
WHERE [Measures].[Order Qty];
```

		AU	CA	DE	FR	GB	US
Accessories	Bike Racks	223	594	246	343	268	1492
Accessories	Bike Stands	65	32	20	19	28	85
Accessories	Bottles and Cages	1694	1556	1040	911	1118	4233
Accessories	Cleaners	336	594	249	281	291	1568
Accessories	Fenders	325	400	161	102	144	989
Accessories	Helmets	1613	3685	1237	1521	1662	9823
Accessories	Hydration Packs	304	496	259	236	261	1205
Accessories	Locks	(null)	283	1	70	49	684
Accessories	Pumps	(null)	262	(null)	90	59	719
Accessories	Tires and Tubes	3307	2861	1597	1817	2026	6398
Bikes	Mountain Bikes	1430	4596	736	1464	1926	18169
Bikes	Road Bikes	2605	8198	1083	2659	2627	30024
Bikes	Touring Bikes	1993	1620	1691	1615	1387	6445
Clothing	Bib-Shorts	(null)	764	14	201	164	1982
Clothing	Caps	619	1638	555	587	688	4224
Clothing	Gloves	455	2666	496	891	965	7539

Zad. 2.5.

		AU	CA	DE	FR	GB	US
Accessories	Tires and Tubes	3307	2861	1597	1817	2026	6398
Bikes	Road Bikes	2605	8198	1083	2659	2627	30024
Bikes	Mountain Bikes	1430	4596	736	1464	1926	18169
Bikes	Touring Bikes	1993	1620	1691	1615	1387	6445
Components	Road Frames	1	2653	84	752	509	7754
Components	Mountain Frames	103	2207	170	789	732	7620
Components	Wheels	(null)	1035	10	251	286	3691
Components	Touring Frames	282	489	473	408	323	1750

Zad. 2.6.

```
WITH MEMBER [Measures].[Moving Avg] AS
    Avg(LastPeriods(3, [Order Date].[Miesiac].CurrentMember),
[Measures].[Line Total])

SELECT {[Order Date].[Rok].&[2012], [Order Date].[Rok].&[2013]} ON
COLUMNS,
    {[Order Date].[Miesiac].CHILDREN} ON ROWS
    FROM [AW_2019_DSV]
    WHERE [Measures].[Moving Avg];
```

	2012	2013
1	3970627.27895797	2087872.462504
2	2723027.09446898	2202397.306992
3	2807267.47578865	2605621.19383966
4	2028591.98224666	2753752.34380465
5	2561650.61676599	3063319.54480432
6	2936185.98954032	3619652.93282469
7	3530637.01328665	4407682.2079565
8	3230981.81468232	4437128.97898184
9	3015914.34259366	4254408.8368843
10	2724626.75457566	4220895.35422032
11	2623648.34073599	4213617.41356434
12	2415399.300222	4061143.38699693

Zad. 3.1.

SELECT DISTINCT DC.CountryRegionCode " ", COUNT(DC.CustomerID) "Customer ID Distinct Count" FROM Pynka.DIM_CUSTOMER DC GROUP BY DC.CountryRegionCode ORDER BY 1;

		Customer ID Distinct Count
1	AU	3625
2	CA	1677
3	DE	1812
4	FR	1844
5	GB	1951
6	US	8210

Zad. 3.2.

```
SELECT * FROM
    (SELECT DISTINCT DC.CountryRegionCode " ", DT.Rok [Rok],
DC.CustomerID [Klient]
        FROM Pynka.DIM_CUSTOMER DC
        JOIN Pynka.FACT_SALES FS ON FS.CustomerID=DC.CustomerID
        JOIN Pynka.DIM_TIME DT ON DT.PK_TIME=FS.OrderDate
        WHERE DT.Rok=2012 OR DT.Rok=2013) I
    PIVOT(COUNT([Klient]) FOR I.[Rok] IN ([2012], [2013])) X
    ORDER BY 1;
```

		2012	2013
1	AU	892	2461
2	CA	302	1031
3	DE	249	1036
4	FR	262	986
5	GB	297	1205
6	US	1160	4376

Zad. 3.3.

```
SELECT IN1.Kraj " ", [2012 Count] "2012 Klienci", [2012 Suma]
"2012 Sztuki", [2013 Count] "2013 Klienci", [2013 Suma] "2013
Sztuki" FROM (
    SELECT [Kraj], [2012] [2012 Count], [2013] [2013 Count] FROM (
        SELECT DISTINCT DC.CountryRegionCode [Kraj], DT.Rok [Rok],
DC.CustomerID [Klient]
            FROM Pynka.DIM CUSTOMER DC
            JOIN Pynka.FACT SALES FS ON
FS.CustomerID=DC.CustomerID
            JOIN Pynka.DIM TIME DT ON DT.PK TIME=FS.OrderDate
            WHERE DT.Rok=2012 OR DT.Rok=2013) I
    PIVOT(COUNT([Klient]) FOR I.[Rok] IN ([2012], [2013])) PIV1)
IN1
JOIN (
    SELECT [Kraj], [2012] [2012 Suma], [2013] [2013 Suma] FROM (
        SELECT DC.CountryRegionCode [Kraj], DT.Rok [Rok],
FS.OrderQty [Sztuki]
            FROM Pynka.DIM CUSTOMER DC
            JOIN Pynka.FACT SALES FS ON
FS.CustomerID=DC.CustomerID
            JOIN Pynka.DIM TIME DT ON DT.PK TIME=FS.OrderDate
            WHERE DT.Rok=2012 OR DT.Rok=2013) I
    PIVOT(SUM([Sztuki]) FOR I.[Rok] IN ([2012], [2013])) PIV2) IN2
ON IN1.Kraj=IN2.Kraj
ORDER BY 1;
```

		2012 Klienci	2012 Sztuki	2013 Klienci	2013 Sztuki
1	AU	892	892	2461	9459
2	CA	302	14412	1031	22553
3	DE	249	249	1036	8140
4	FR	262	3472	986	11113
5	GB	297	3132	1205	10756
6	US	1160	46422	4376	69767

Zad. 3.4.

```
SELECT * FROM (
    SELECT DP.CategoryName " ", DP.SubCategoryName "`",
FS.OrderQty [Sztuki], DC.CountryRegionCode [Kraj]
          FROM Pynka.FACT_SALES FS
          JOIN Pynka.DIM_CUSTOMER DC ON DC.CustomerID=FS.CustomerID
          JOIN Pynka.DIM_PRODUCT DP ON DP.ProductID=FS.ProductID) I
PIVOT(SUM([Sztuki]) FOR I.[Kraj] IN ([AU], [CA], [DE], [FR], [GB],
[US])) X
ORDER BY 1,2;
```

-		•	AU	CA	DE	FR	GB	US
1	Accessories	Bike Racks	223	594	246	343	268	1492
2	Accessories	Bike Stands	65	32	20	19	28	85
3	Accessories	Bottles and Cages	1694	1556	1040	911	1118	4233
4	Accessories	Cleaners	336	594	249	281	291	1568
5	Accessories	Fenders	325	400	161	102	144	989
6	Accessories	Helmets	1613	3685	1237	1521	1662	9823
7	Accessories	Hydration Packs	304	496	259	236	261	1205
8	Accessories	Locks	NULL	283	1	70	49	684
9	Accessories	Pumps	NULL	262	NULL	90	59	719
10	Accessories	Tires and Tubes	3307	2861	1597	1817	2026	6398
11	Bikes	Mountain Bikes	1430	4596	736	1464	1926	18169
12	Bikes	Road Bikes	2605	8198	1083	2659	2627	30024
13	Bikes	Touring Bikes	1993	1620	1691	1615	1387	6445
14	Clothing	Bib-Shorts	NULL	764	14	201	164	1982
15	Clothing	Caps	619	1638	555	587	688	4224
16	Clothing	Gloves	455	2666	496	891	965	7539

Zad. 3.5.

		•	AU	CA	DE	FR	GB	US
1	Accessories	Tires and Tubes	3307	2861	1597	1817	2026	6398
2	Bikes	Road Bikes	2605	8198	1083	2659	2627	30024
3	Bikes	Mountain Bikes	1430	4596	736	1464	1926	18169
4	Bikes	Touring Bikes	1993	1620	1691	1615	1387	6445
5	Components	Road Frames	1	2653	84	752	509	7754
6	Components	Mountain Frames	103	2207	170	789	732	7620
7	Components	Wheels	NULL	1035	10	251	286	3691
8	Components	Touring Frames	282	489	473	408	323	1750

Zad. 3.6.

```
SELECT Avg(X.[2012]) OVER(ORDER BY [Miesiac] ROWS BETWEEN 2
PRECEDING AND CURRENT ROW) "2012",
    Avg(X.[2013]) OVER(ORDER BY [Miesiac] ROWS BETWEEN 2 PRECEDING
AND CURRENT ROW) "2013"
FROM (
    SELECT DT.Rok [Rok], DT.Miesiac [Miesiac], FS.LineTotal
[Kwota]
    FROM Pynka.FACT SALES FS
    JOIN Pynka.DIM TIME DT ON DT.PK TIME=FS.OrderDate
    WHERE DT.Rok=2012 OR DT.Rok=2013) I
PIVOT(SUM([Kwota]) FOR I.[Rok] IN ([2012], [2013])) X;
     2012
                 2013
    3970627.278958 2087872.462504
    2723027.094469 2202397.306992
     2807267.475788 2605621.193839
    2028591.982246 2753752.343804
 5
    2561650.616766 3063319.544804
    2936185.989540 3619652.932824
    3530637.013286 4407682.207956
 8
    3230981.814682 4437128.978981
 9
     3015914.342593 4254408.836884
```

Zad. 4.

30

6

10 2724626.754575 4220895.354220 11 2623648.340736 4213617.413564 12 2415399.300222 4061143.386996

```
WITH MEMBER [Measures].[NazwaMiesiaca]

AS '[Order Date].[Miesiac].CurrentMember.Name'

SELECT {[Measures].[NazwaMiesiaca]} ON COLUMNS,

HEAD({ORDER(DESCENDANTS([Order
Date].[Hierarchy].[Rok].&[2013],

[Order Date].[Hierarchy].[Dzien Miesiaca]),

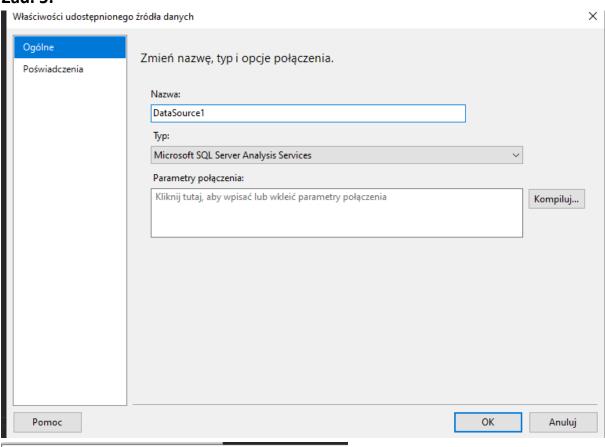
[Measures].[Order Qty],

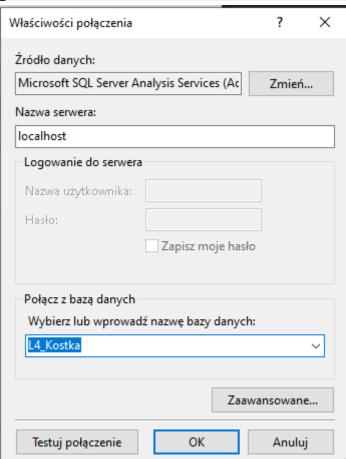
BDESC

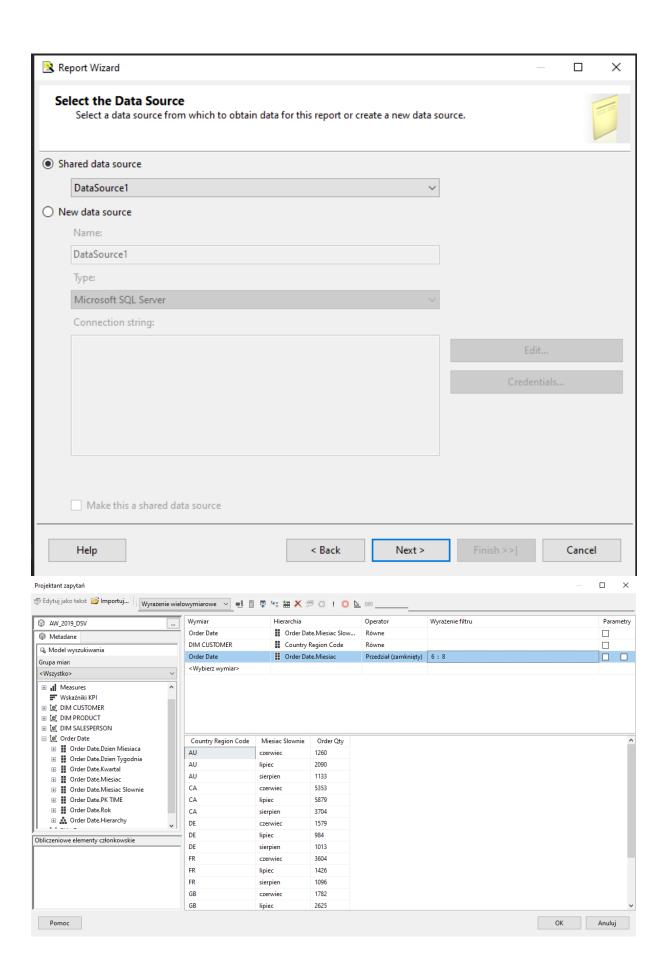
)}, 1) ON ROWS

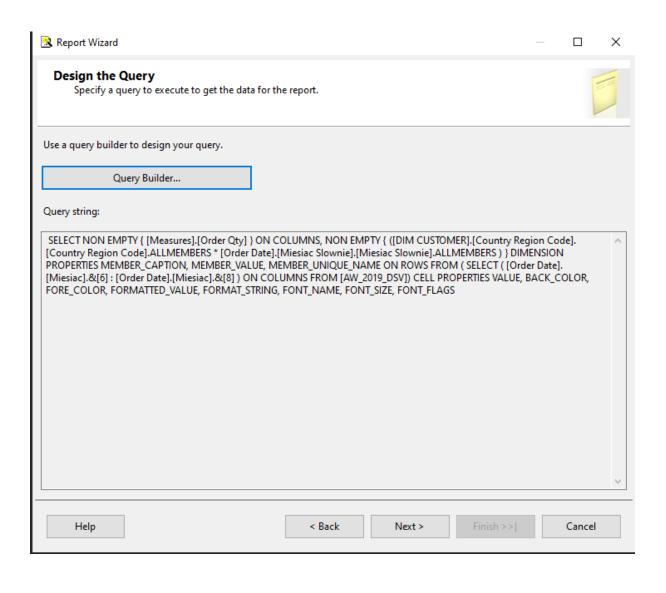
FROM [AW_2019_DSV];
```

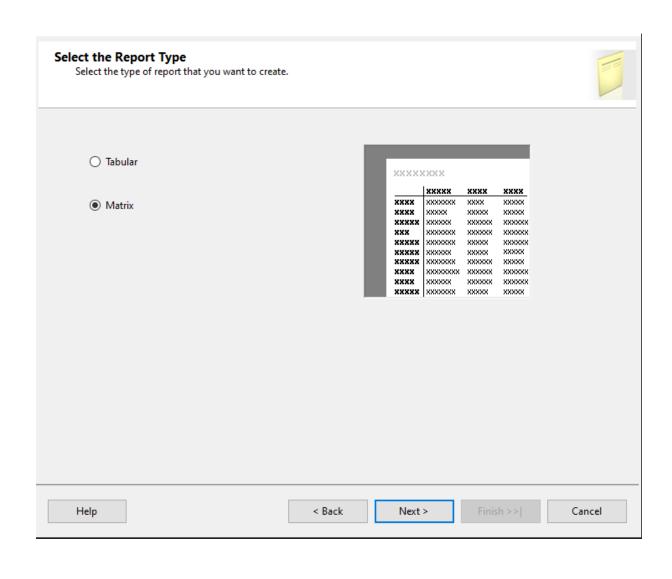
Zad. 5.







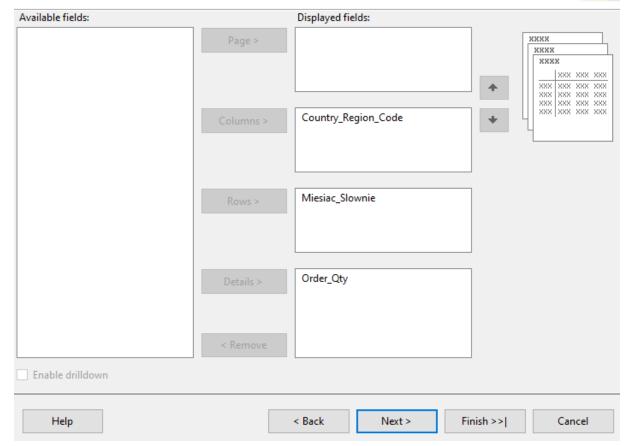


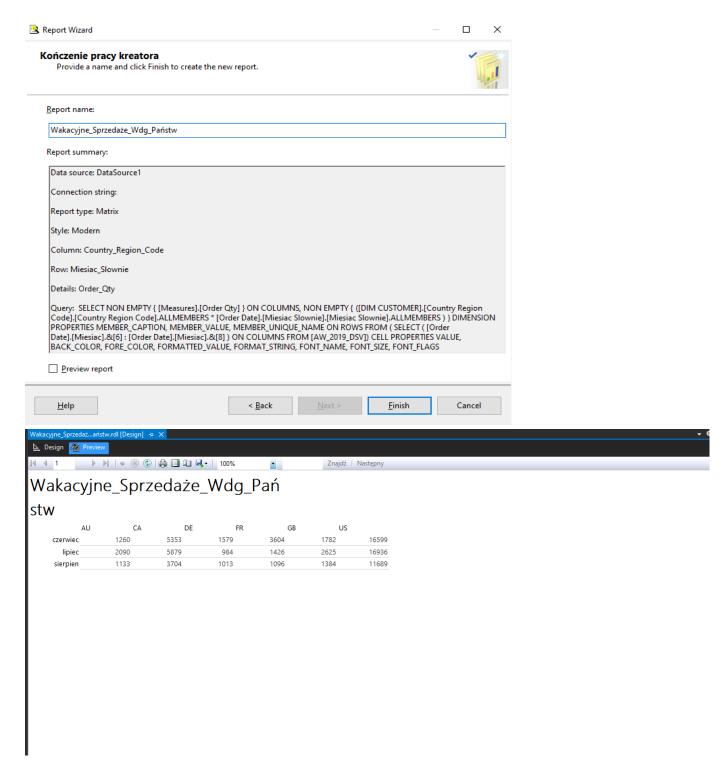


Design the Matrix

Choose the fields that you want to display in the matrix.







Wniosek: Raport może być wykorzystany w celu porównania sprzedaży produktów w okresie wakacyjnym w różnych państwach. Może to obrazować efektywność kampanii reklamowych prowadzonych w okresie letnim w różnych regionach. Możemy na przykład zaobserwować, że w regionie europejskim bardzo dużo produktów sprzedaje się w czerwcu we Francji. W pozostałych miesiącach wygląda to zdecydowanie gorzej. Sumarycznie Francja jednak sprzedaje przez wakacje tyle produktów co Wielka Brytania, natomiast sąsiadujące Niemcy sprzedają około 2 razy mniej sztuk produktów. Można więc zaproponować inną strategię marketingową w Niemczech w okresie wakacyjnym.

Wnioski:

- Zapytania MDX pozwalają w dużo bardziej zwięzły, a co za tym idzie, czytelniejszy sposób utworzyć interesujące z perspektywy analizy biznesowej zestawienia. W przypadku zwykłego SQL'a musimy dodatkowo łączyć odpowiednie tabele za pomocą JOIN'ów i używać PIVOT'a by osiągnąć konkretne tabele przestawne.
- Istniejące narzędzia takie jak Reporting Services w ramach środowiska Visual Studio pozwalają za pomocą interfejsu użytkownika "wyklikać" odpowiednie wymiary/miary by móc wygenerować oczekiwane raporty. Umożliwia to osobom nieznającym składni SQL'a czy MDX'a tworzenie zestawień potrzebnych z perspektywy biznesu.