



Univerzitet u Zenici

Politehnički fakultet

Odsjek SOFTVERSKO INŽENJERSTVO

---

## Zadaća 4

---

POSLOVNA INTELIGENCIJA

Autor:

**Admir Smajlović, II-110**

Zenica, akademska 2024/2025 godina

# Sadržaj

<b>1</b>	<b>Izrada zadatka</b>	<b>1</b>
1.1	Zadatak 1 . . . . .	1
1.1.1	Obrazloženje . . . . .	1
1.1.2	Kod . . . . .	1
1.1.3	Slika . . . . .	2
1.2	Zadatak 2 . . . . .	2
1.2.1	Obrazloženje . . . . .	2
1.2.2	Kod . . . . .	2
1.2.3	Slika . . . . .	3
1.3	Zadatak 3 . . . . .	3
1.3.1	Obrazloženje . . . . .	3
1.3.2	Kod . . . . .	3
1.3.3	Slika . . . . .	4
1.4	Zadatak 4 . . . . .	5
1.4.1	Obrazloženje . . . . .	5
1.4.2	Kod . . . . .	5
1.4.3	Slika . . . . .	5
1.5	Zadatak 5 . . . . .	6
1.5.1	Obrazloženje . . . . .	6
1.5.2	Kod . . . . .	6
1.5.3	Slika . . . . .	6
1.6	Zadatak 6 . . . . .	7
1.6.1	Obrazloženje . . . . .	7
1.6.2	Kod . . . . .	7
1.6.3	Slika . . . . .	7
1.7	Zadatak 7 . . . . .	8
1.7.1	Obrazloženje . . . . .	8
1.7.2	Kod . . . . .	8
1.7.3	Slika . . . . .	9

1.8	Zadatak 8 . . . . .	9
1.8.1	Obrazloženje . . . . .	9
1.8.2	Kod . . . . .	9
1.8.3	Slika . . . . .	10

# 1. Izrada zadatka

## 1.1 Zadatak 1

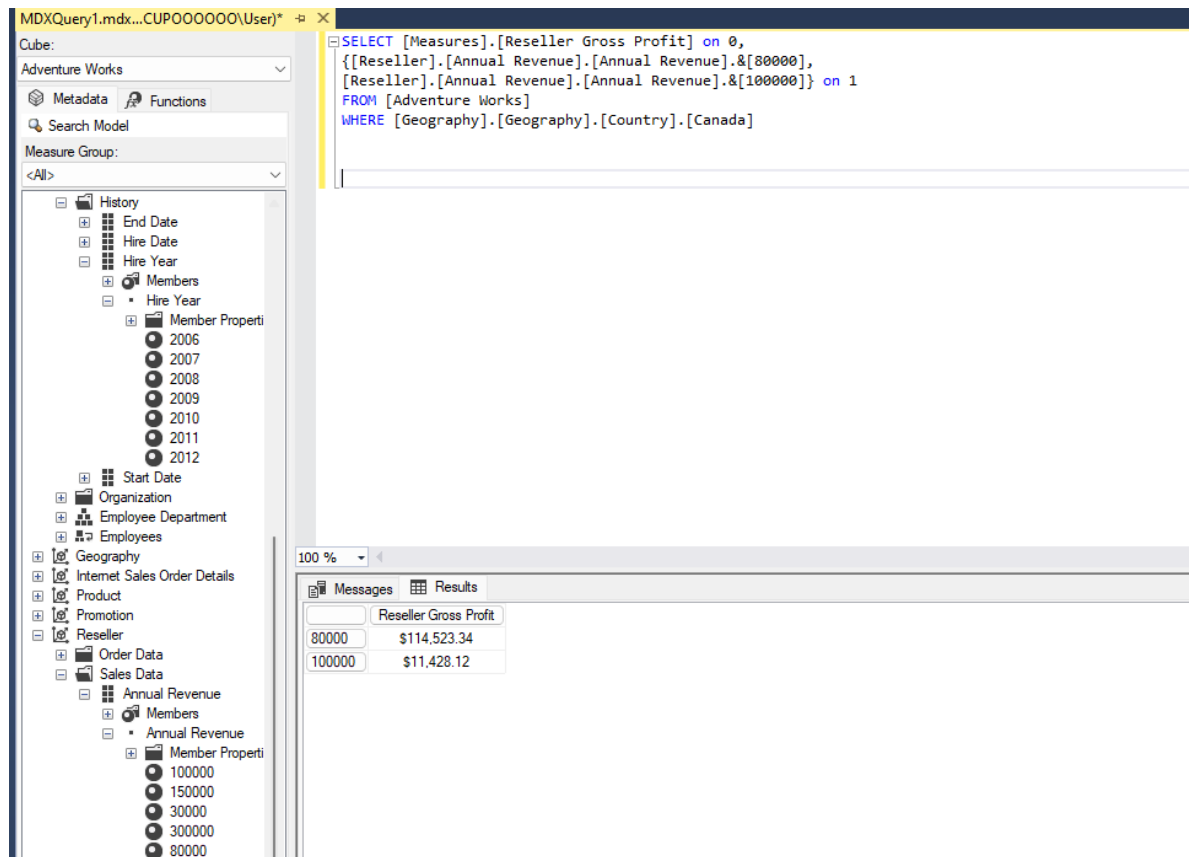
### 1.1.1 Obrazloženje

SLICE nad mjerom [Reseller Gross Profit] prikazane sa dvije proizvoljne dimenzije i proizvoljnom trećom dimenzijom bez null vrijednosti

### 1.1.2 Kod

```
1 SELECT [Measures].[Reseller Gross Profit] on 0,  
2 {[Reseller].[Annual Revenue].[Annual Revenue].&[8000],  
3 [Reseller].[Annual Revenue].[Annual Revenue].&[10000]} on 1  
4 FROM [Adventure Works]  
5 WHERE [Geography].[Geography].[Country].[Canada]
```

### 1.1.3 Slika



## 1.2 Zadatak 2

### 1.2.1 Obrazloženje

DICE nad proizvoljnom mjerom i proizvoljnom dimenzijom za godine 2011,2012 i 2013

### 1.2.2 Kod

```
1 SELECT [Reseller].[Annual Revenue].members on 0,
2 {[Date].[Fiscal Year].[Fiscal Year].&[2011],
3 [Date].[Fiscal Year].[Fiscal Year].&[2012],
4 [Date].[Fiscal Year].[Fiscal Year].&[2013]} on 1
5 FROM [Adventure Works]
```

## 1.2.3 Slika

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the 'Adventure Works' cube is selected, and the 'Measures' folder is expanded, showing various measures like 'Internet Customers', 'Internet Orders', etc. The main pane displays an MDX query:

```
SELECT [Reseller].[Annual Revenue].members on 0,
{[Date].[Fiscal Year].[Fiscal Year].&[2011],
[Date].[Fiscal Year].[Fiscal Year].&[2012],
[Date].[Fiscal Year].[Fiscal Year].&[2013]} on 1
FROM [Adventure Works]
```

At the bottom, the 'Results' pane shows a pivot table with the following data:

	All Resellers	100000	150000	30000	300000	80000
FY 2011	\$25,951,300.07	\$735,072.23	\$3,036,584.33	\$3,723,324.40	\$10,659,451.63	\$7,796,867.47
FY 2012	\$32,547,674.92	\$691,974.44	\$3,420,535.37	\$4,725,816.88	\$14,122,556.39	\$9,586,791.83
FY 2013	\$14,375,515.27	\$401,015.00	\$1,519,443.25	\$2,268,902.62	\$5,830,240.47	\$4,355,913.93

## 1.3 Zadatak 3

### 1.3.1 Obrazloženje

Pivot nad defaultnom mjerom sa po dvije proizvoljne mjere

### 1.3.2 Kod

```

1 SELECT [Measures].[Internet Order Count] on 1,
2 [Geography].[Country].[Country] on 0
3 FROM [Adventure Works]
4
5 SELECT [Measures].[Internet Order Count] on 0,
6 [Geography].[Country].[Country] on 1
7 FROM [Adventure Works]
```

### 1.3.3 Slika

MDXQuery1.mdx...CUPO000000\User)\*

Cube: Adventure Works

Metadata Functions

Search Model

Measure Group: <All>

Adventure Works

- Measures
  - Internet Customers
  - Internet Orders
    - Internet Order Count
  - Internet Sales
  - Reseller Orders
  - Reseller Sales
  - Sales Orders
  - Sales Summary
  - Sales Targets
- KPIs
- Customer
- Date
- Delivery Date
- Employee
- Geography
- Internet Sales Order Details
- Product
  - Financial
  - History
  - Sets
  - Stocking
  - Category
- Members

```
SELECT [Measures].[Internet Order Count] on 1,
[Geography].[Country].[Country] on 0
FROM [Adventure Works]
```

100 %

Messages Results

	Australia	Canada	France	Germany	United Kingdom	United States
Internet Order Count	27,659	27,659	27,659	27,659	27,659	27,659

MDXQuery1.mdx...CUPO000000\User)\*

Cube: Adventure Works

Metadata Functions

Search Model

Measure Group: <All>

Adventure Works

- Measures
  - Internet Customers
  - Internet Orders
    - Internet Order Count
  - Internet Sales
  - Reseller Orders
  - Reseller Sales
  - Sales Orders
  - Sales Summary
  - Sales Targets
- KPIs
- Customer
- Date
- Delivery Date
- Employee
- Geography
- Internet Sales Order Details
- Product
  - Financial
  - History
  - Sets
  - Stocking
  - Category
- Members
  - Category
    - Member Properties
      - Accessories
      - Bikes
      - Clothing
      - Components

```
SELECT [Measures].[Internet Order Count] on 0,
[Geography].[Country].[Country] on 1
FROM [Adventure Works]
```

100 %

Messages Results

	Internet Order Count
Australia	27,659
Canada	27,659
France	27,659
Germany	27,659
United Kingdom	27,659
United States	27,659

## 1.4 Zadatak 4

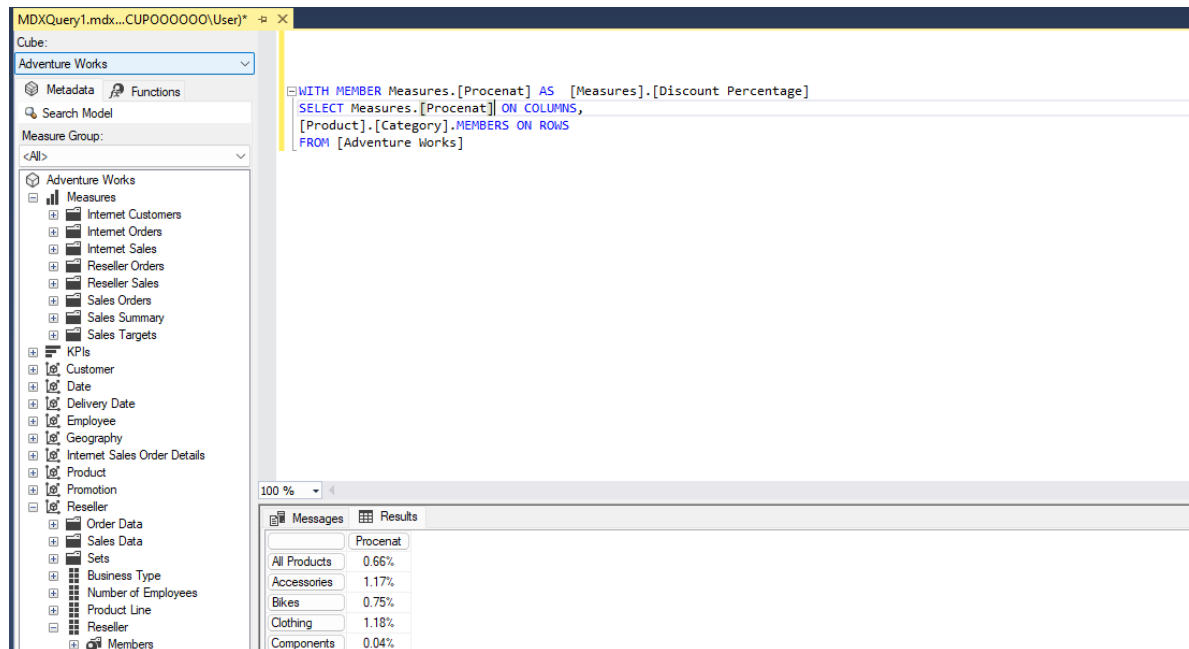
### 1.4.1 Obrazloženje

Analiza sa izračunatom mjerom od Discount Percentage i jednom ili više drugih mjera po jednoj proizvoljnoj dimenziji.

### 1.4.2 Kod

```
1 WITH MEMBER Measuers.[Procenat] AS [Measures].[Discount  
   Percentage]  
2 SELECT Measures.[Procenat] ON COLUMNS,  
3 [Product].[Category].MEMBERS ON ROWS  
4 FROM [Adventure Works]
```

### 1.4.3 Slika





## 1.5 Zadatak 5

### 1.5.1 Obrazloženje

RANGE u rasponu od 2010 do 2014 prikazati proizvoljnu mjeru po proizvoljnoj dimenziji

### 1.5.2 Kod

```

1
2 SELECT
3 CROSSJOIN({[Measures].[Total Product Cost]},
4 {[Date].[Fiscal Year].[FY 2010]: [Date].[Fiscal Year].[FY
    2014]}) ON 0,
5 {[Geography].[Geography].[Country]} ON 1
6 FROM [Adventure Works]
```

### 1.5.3 Slika

The screenshot displays the SQL Server Data Tools (SSDT) interface. On the left, the 'Cube Explorer' shows the 'Adventure Works' cube with various dimensions like Reseller Orders, Sales Summary, Date, and Geography. The 'Measures' pane shows 'Total Product Cost'. The central pane displays the MDX query:

```

SELECT
CROSSJOIN(({[Measures].[Total Product Cost]},
{[Date].[Fiscal Year].[FY 2010]: [Date].[Fiscal Year].[FY 2014]}) ON 0,
{[Geography].[Geography].[Country]} ON 1
FROM [Adventure Works]
```

At the bottom, the 'Results' pane shows a table with the following data:

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Australia	\$9,193,408.81	\$29,477,236.55	\$38,488,408.42	\$20,098,854.17	(null)
Canada	\$9,193,408.81	\$29,477,236.55	\$38,488,408.42	\$20,098,854.17	(null)
France	\$9,193,408.81	\$29,477,236.55	\$38,488,408.42	\$20,098,854.17	(null)
Germany	\$9,193,408.81	\$29,477,236.55	\$38,488,408.42	\$20,098,854.17	(null)
United Kingdom	\$9,193,408.81	\$29,477,236.55	\$38,488,408.42	\$20,098,854.17	(null)
United States	\$9,193,408.81	\$29,477,236.55	\$38,488,408.42	\$20,098,854.17	(null)

## 1.6 Zadatak 6

### 1.6.1 Obrazloženje

Analiza koristeći HAVING sa proizvoljnom mjerom i lokacijskom dimenzijom

### 1.6.2 Kod

```

1
2 SELECT [Measures].[Total Product Cost] on 1,
3 {[Product].[Category].members} HAVING [Measures].[Total Product
   Cost] on 0
4 FROM [Adventure Works]
5 WHERE {[Geography].[Geography].[Country].[Canada]}

```

### 1.6.3 Slika

The screenshot shows the SQL Server Enterprise Manager interface. On the left, the 'Adventure Works' cube is selected, and the 'Product' dimension is expanded. The main pane displays the following MDX query:

```

SELECT [Measures].[Total Product Cost] on 1,
      {[Product].[Category].members} HAVING [Measures].[Total Product Cost] on 0
FROM [Adventure Works]
WHERE {[Geography].[Geography].[Country].[Canada]}

```

At the bottom, the 'Results' pane shows a table with the following data:

	All Products	Accessories	Bikes	Clothing	Components
Total Product Cost	\$97,257,907.95	\$637,590.73	\$84,105,429.60	\$1,748,777.45	\$10,766,110.18

## 1.7 Zadatak 7

### 1.7.1 Obrazloženje

Drill Down analiza sa proizvoljnom mjerom i dimenzijom koja nije vremenska dimenzija

### 1.7.2 Kod

```
1
2 SELECT [Measures].[Total Product Cost] on 0,
3 DRILLDOWNLEVEL([Product].[Product Categories].[Category]) on 1
4 FROM [Adventure Works]
5 WHERE [Ship Date].[Month of Year].[August]
```

Izrada zadatka

## 1.7.3 Slika

The screenshot shows the SQL Server Enterprise Manager interface. The left pane displays the 'Adventure Works' cube structure, including measures like 'Total Product Cost' and dimensions like 'Product', 'Date', and 'Geography'. The right pane shows the MDX query:

```
SELECT
{[Measures].[Total Product Cost]} ON 0,
DRILLDOWNLEVEL([Product].[Product Categories].[Category]) ON 1
FROM [Adventure Works]
WHERE [Ship Date].[Month of Year].[August]
```

The bottom pane displays the results of the query in a table format:

	Total Product Cost
Accessories	\$39,899.43
Bike Racks	\$7,360.32
Bike Stands	\$1,367.72
Bottles and Cages	\$2,309.49
Cleaners	\$564.93
Fenders	\$1,471.47
Helmets	\$14,884.57
Hydration Packs	\$2,982.11
Lights	(null)
Locks	\$505.31
Panniers	(null)
Pumps	\$321.59
Tires and Tubes	\$8,131.92
Bikes	\$7,771,674.30
Mountain Bikes	\$2,846,920.86
Road Bikes	\$3,905,446.67
Touring Bikes	\$1,019,306.76
Clothing	\$101,382.34
Bib-Shorts	\$5,827.98

## 1.8 Zadatak 8

### 1.8.1 Obrazloženje

Podupit TOP analizom nad mjerom [Reseller Order Quantity]

### 1.8.2 Kod

## Izrada zadatka

```
1
2 SELECT non empty [Geography].[Country].members on 0,
3 [Reseller].[Order Month].members on 1
4
5 FROM (SELECT TOPCOUNT( [Reseller].[Reseller Order Month].[Order
        Month],
6 10,
7 [Measures].[Reseller Order Quantity]) on 0
8 FROM [Adventure Works])
9 WHERE [Measures].[Reseller Order Quantity]
```

## 1.8.3 Slika

MDXQuery1.mdx...CUP000000\User)\* - X

Cube: Adventure Works

Metadata Functions

Search Model

Measure Group: <All>

Adventure Works

- Measures
  - Internet Customers
  - Internet Orders
  - Internet Sales
  - Reseller Orders
  - Reseller Sales
    - Discount Amount
    - Discount Percentage
    - Reseller Average Sales
    - Reseller Average Unit Price
    - Reseller Extended Amount
    - Reseller Freight Cost
    - Reseller Gross Profit
    - Reseller Gross Profit Margin
    - Reseller Order Quantity
    - Reseller Ratio to All Products
    - Reseller Ratio to Parent
    - Reseller Sales Amount
    - Reseller Standard Product
    - Reseller Tax Amount
    - Reseller Total Product Cost
- Sales Orders
- Sales Summary
- Sales Targets

KPIs

- Customer
- Date
- Delivery Date
- Employee
- Geography
  - City
  - Country
    - Members
      - Country
        - Member Properties

100 %

Messages Results

	All Geographies	Australia	Canada	France	Germany	United Kingdom	United States
All Resellers	214,345	4,948	41,761	14,348	7,376	13,193	132,719
January	153	(null)	2	(null)	2	(null)	149
February	296	3	29	(null)	(null)	3	261
March	202	(null)	3	(null)	4	(null)	195
April	54,636	452	11,227	2,548	2,269	3,159	34,981
May	83,465	954	14,872	9,100	3,306	3,836	51,397
June	74,402	3,538	15,181	2,698	1,791	6,194	45,000
August	217	1	63	(null)	(null)	1	152
September	113	(null)	(null)	(null)	4	(null)	109
November	576	(null)	327	2	(null)	(null)	247
December	285	(null)	57	(null)	(null)	(null)	228