

**ADRIAN TRIF**

# **BAZE DE DATE. APLICAȚII ACCESS**

**UTPRESS**  
**Cluj-Napoca, 2019**  
**ISBN 978-606-737-380-6**

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**Editura U.T.PRESS**  
**Str. Observatorului nr. 34**  
**C.P. 42, O.P. 2, 400775 Cluj-Napoca**  
**Tel.:0264-401.999**  
**e-mail: [utpress@biblio.utcluj.ro](mailto:utpress@biblio.utcluj.ro)**  
**<http://biblioteca.utcluj.ro/editura>**

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**ISBN 978-606-737-380-6**

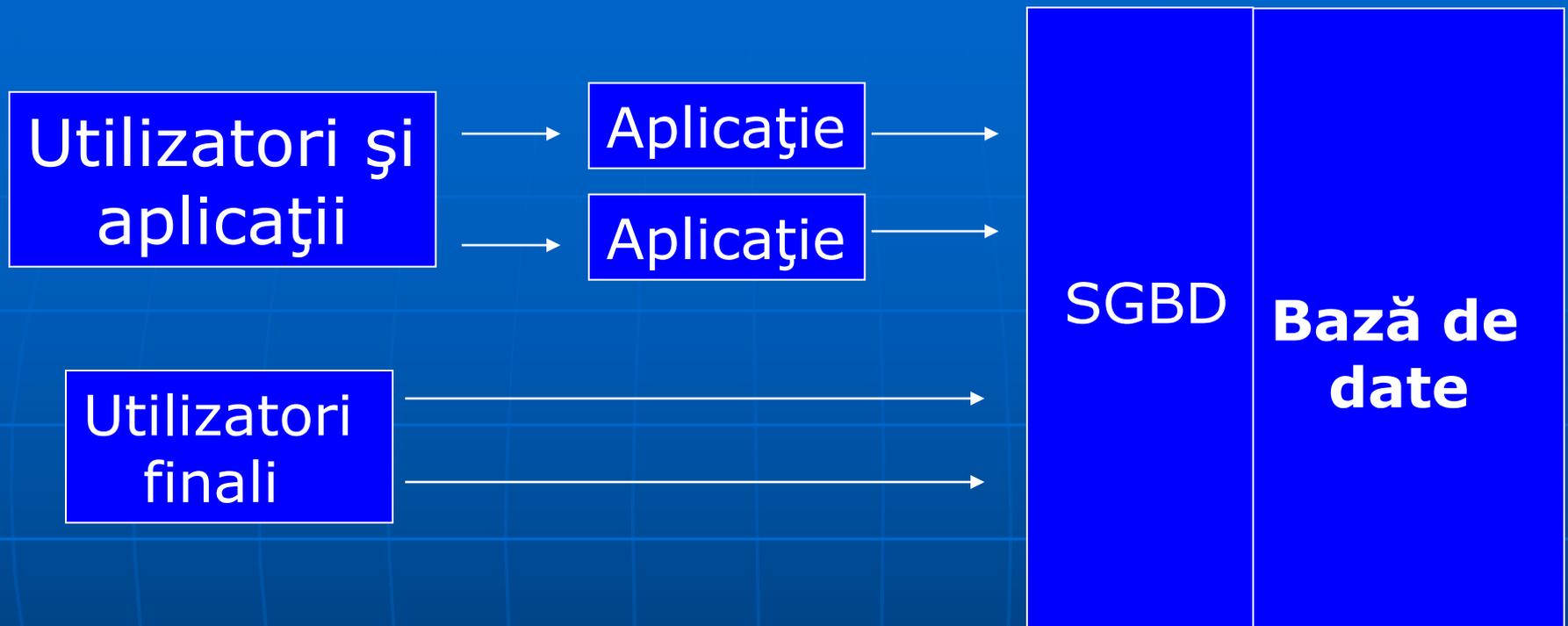
**Baza de date** = colecție organizată de date operaționale

Cui sunt necesare bazele de date?

↓  
Uneia sau mai multor aplicații interdependente

↓  
SGBD

SGBD = instrument software ce asigură accesul aplicațiilor la baza de date (motoare ale bazelor de date)



**Aplicație** = produs software conceput pentru rezolvarea unor probleme generale sau particulare

# Orice **SGBD** contine:

- **limbaj de descriere a datelor** (LDD) care permite:
  - descrierea structurii unei baze de date
  - descrierea fiecărei componente a bazei de date
  - descrierea a relatiilor dintre ele
  - descrierea drepturilor de acces ale utilizatorilor la baza de date
  - descrierea restrictiilor etc
- **limbajul de cereri** (LC) sau **limbajul de prelucrare a datelor** (LPD)
  - permite operatii asupra datelor
    - incarcarea bazei de date
    - inserarea unui nou element
    - stergerea unui element
    - modificarea unuui element
    - cautarea unor elemente
    - statistici asupra datelor etc

## Avantajele unei baze de date:

- introducerea rapidă a datelor;
- eliminarea informațiilor redundante.
- găsirea rapidă a datelor;
- controlul asupra datelor;
- regăsirea, analiza și rezumarea datelor;
- raportarea rezultatelor;
- combinarea datelor din fișiere diferite;
- evitarea complicațiilor legate de existența mai multor liste

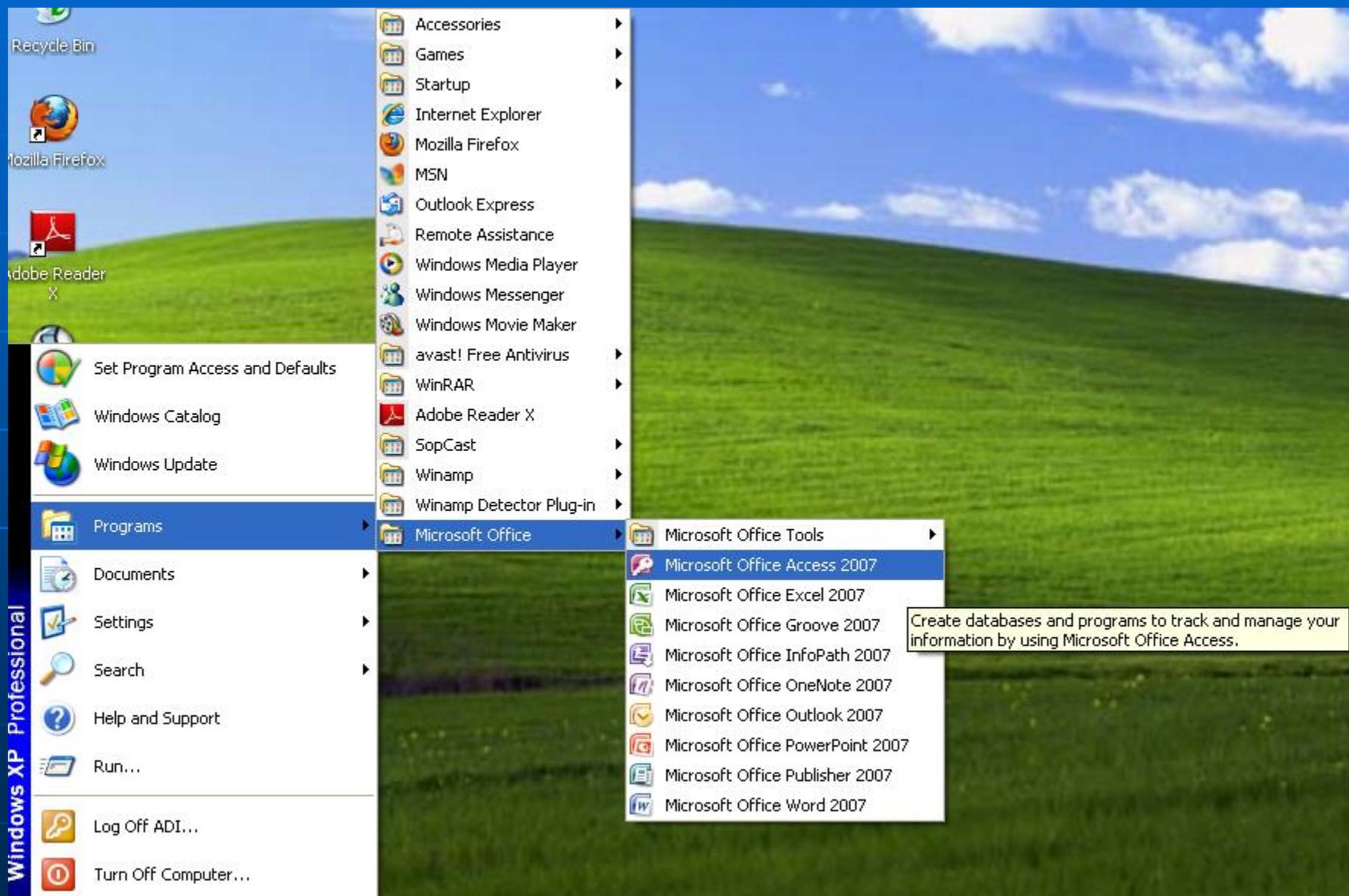
# CONSTITUIREA UNEI BAZE DE DATE

# Crearea de la zero a unei baze de date

Cele mai importante entități din interiorul unei baze de date sunt:

- **Interogările**, ce ne ajuta sa extragem anumite informatii dintr-o baza de date;
- **Rapoartele**, ce ne permit sa scoatem pe hartie aceste date (intr-un raport conteaza si partea estetica, layout-ul, felul cum sunt prezentate acele date);
- **Formularele**, ce ne ajuta sa introducem sau sa modificam datele din interiorul unei baze de date.

# Pasul 1 Se deschide aplicatia **Microsoft Access 2007**.



## Pasul 2 Se alege optiunea **Blank Database:**



The screenshot shows the Microsoft Access application window. The title bar reads "Microsoft Access". On the left, a "Template Categories" sidebar is visible, with "Featuring" selected. Below it, "Local Templates" and "From Microsoft Office Online" are listed. Under "From Microsoft Office Online", the categories "Business", "Personal", "Sample", and "Education" are shown. The main area displays "Getting Started with Microsoft Office Access". A "New Blank Database" section is highlighted, with a tooltip over the "Blank Database" icon that reads: "New Blank Database. Create a Microsoft Office Access database that does not contain any existing data or objects." Below this, a grid of template icons is shown, including "Assets", "Contacts", "Issues", "Events", "Marketing projects", "Projects", "Sales pipeline", "Tasks", "Faculty", and "Students".

Microsoft Access

Template Categories

Featuring

Local Templates

From Microsoft Office Online

Business

Personal

Sample

Education

Getting Started with Microsoft Office Access

New Blank Database

Blank Database

New Blank Database

Create a Microsoft Office Access database that does not contain any existing data or objects.

Assets

Contacts

Issues

Events

Marketing projects

Projects

Sales pipeline

Tasks

Faculty

Students

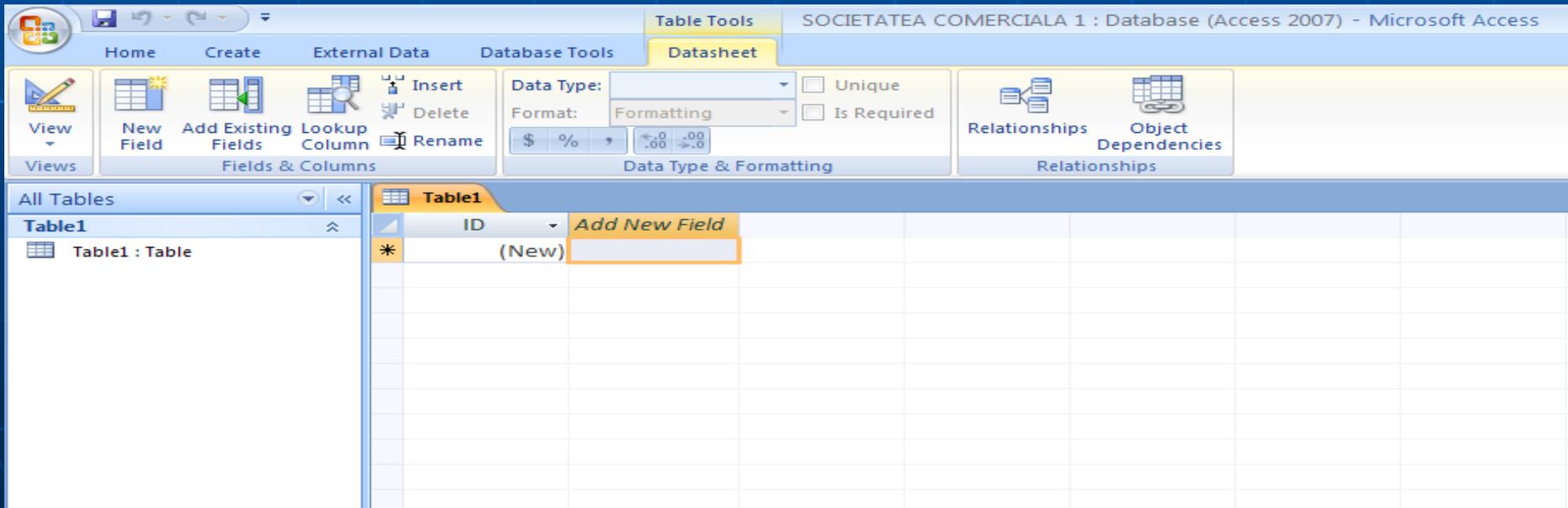
# Pasul 3 Se introduce numele bazei de date si se apasa butonul CREATE:

The screenshot shows the Microsoft Access application window. The title bar reads "Microsoft Access". The main area displays "Getting Started with Microsoft Office Access". On the left, a sidebar lists "Template Categories": "Featuring", "Local Templates", "From Microsoft Office Online", "Business", "Personal", "Sample", and "Education". The "From Microsoft Office Online" category is selected. The main area shows a "New Blank Database" section with a "Blank Database" icon. Below it, "Featured Online Templates" are displayed in a grid: Assets, Contacts, Issues, Events, Marketing projects, Projects, Sales pipeline, Tasks, Faculty, and Students. On the right, a "Blank Database" dialog box is open, showing the "File Name:" field with the text "SOCIETATEA COMERCIALA 1" and the "Create" button highlighted.

## Pasul 4 Crearea unui tabel

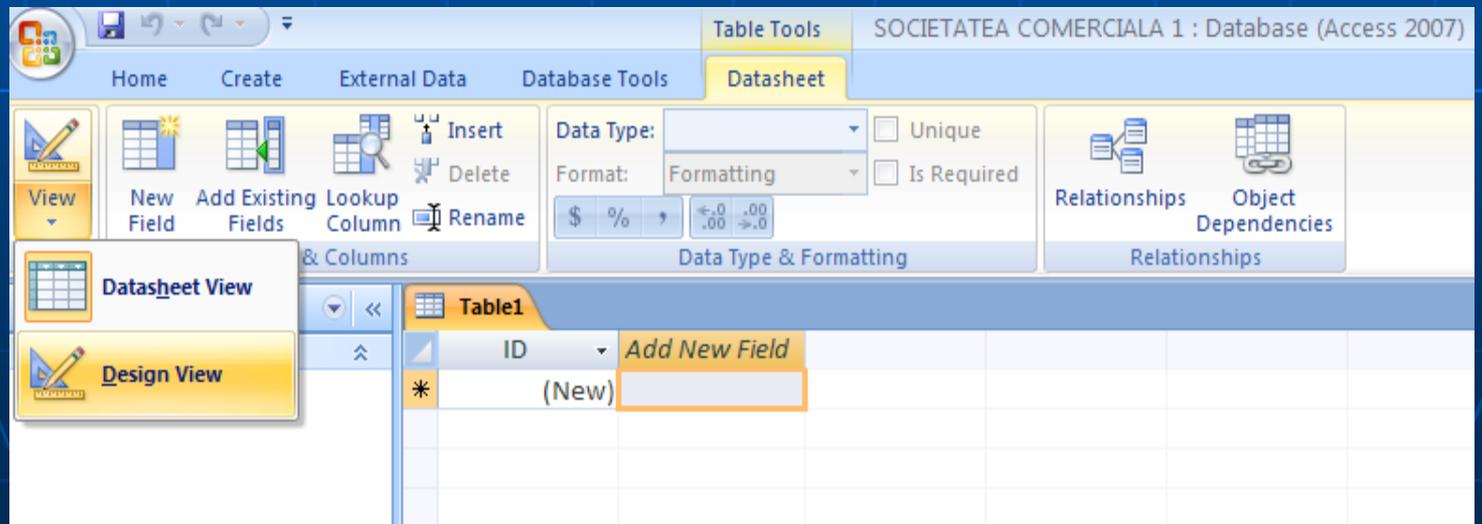
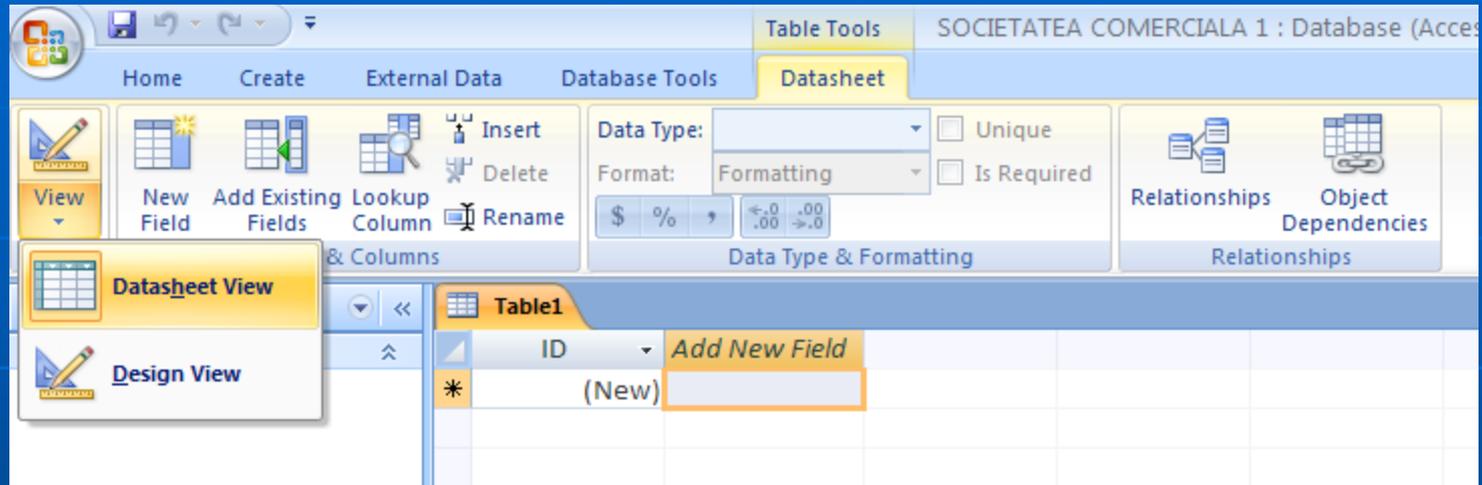
Interfata Access-ului prezinta un tabel nou:

- **Coloana** dintr-un tabel se numeste *field (camp)*;
  - **Linia** din tabel se numeste *record (inregistrare)*;
  - **Intersectia** dintre o linie si o coloana se numeste *value (valoare)*.
- Linia cea mai importanta: **cap de tabel** (sau *structura de baza*).
- Orice tabel dintr-o baza de date va stoca informatii referitoare la o singura entitate



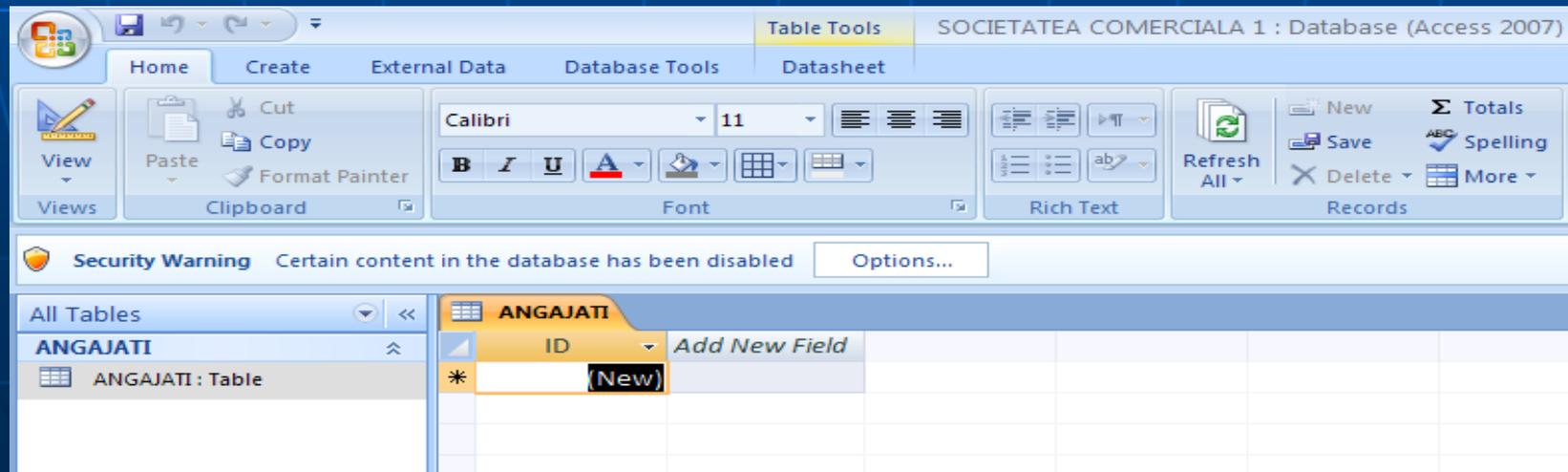
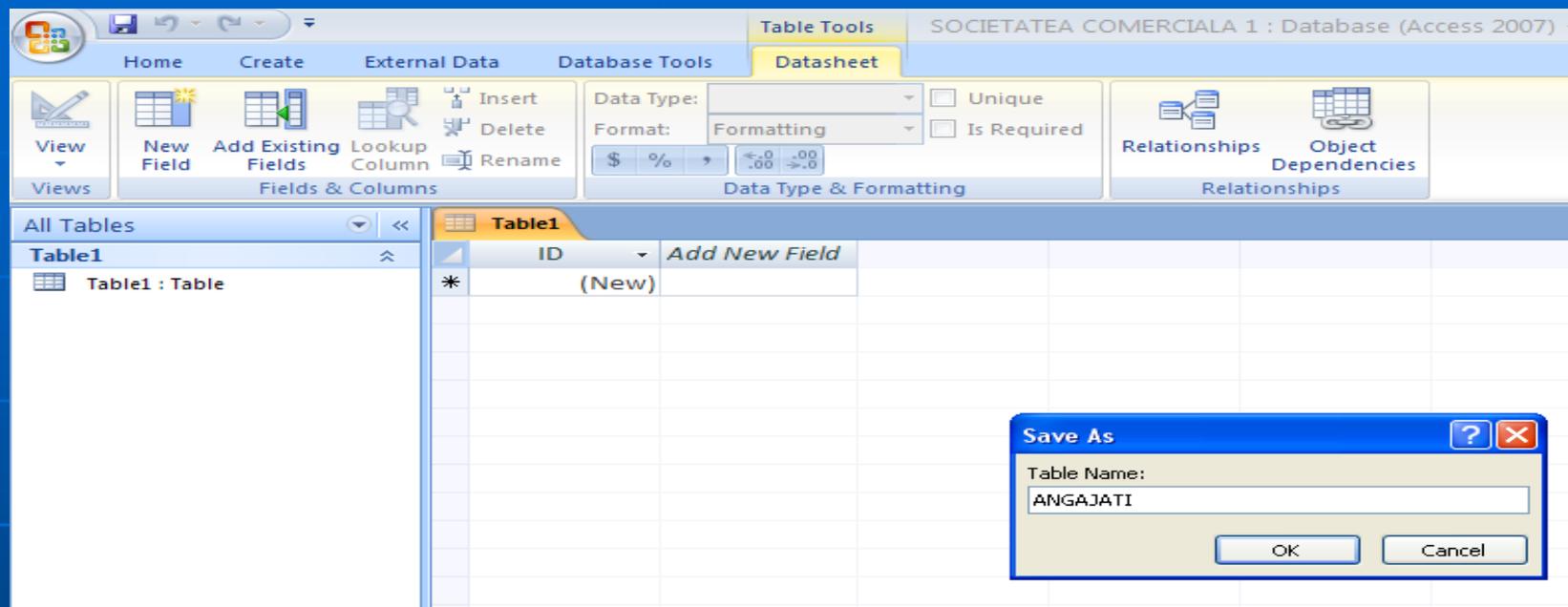
## Pasul 5 Crearea unui tabel "Angajati"

Moduri de vizualizare ale unui tabel:

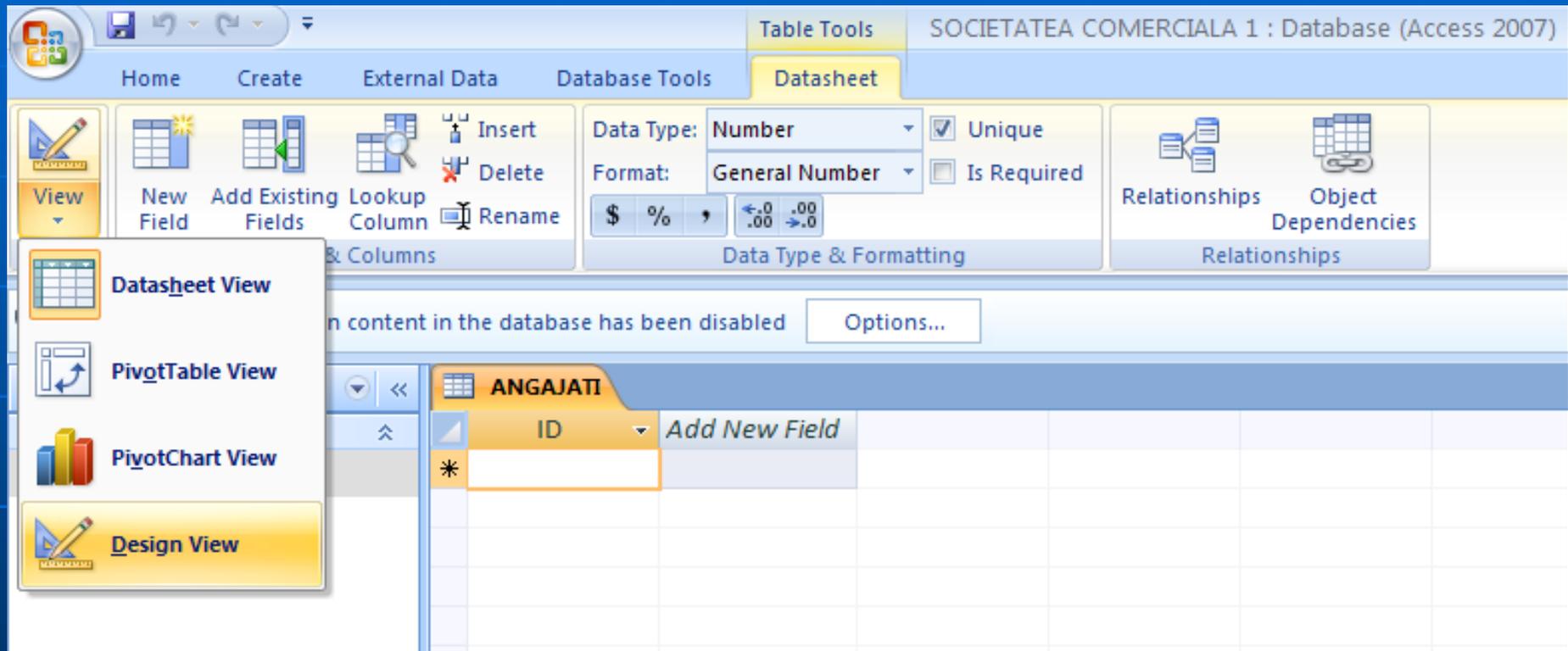


Se recomanda optiunea 2: **Design view**

- **introducerea numelui tabelului**



Se realizeaza secventele:







Home Create External Data Database Tools Design

View Primary Key Builder Test Validation Rules Insert Rows Delete Rows Lookup Column Property Sheet Indexes

Tools Show/Hide

- Datasheet View
- PivotTable View
- PivotChart View
- Design View

Content in the database has been disabled Options...

Field Name	Data Type	Descri
MARCA ANGAJAT	AutoNumber	
Numele si prenumele	Text	
Localitate de domiciliu	Text	
Adresa	Text	
Salariu	Number	

Microsoft Access 2007 ribbon: Table Tools - Design

Home | Create | External Data | Database Tools | **Table Tools** | Design

Views | Primary Key | Builder | Test Rules | Validation Rules | Insert Rows | Delete Rows | Lookup Column | Property Sheet | Indexes | Show/Hide

**Security Warning** Certain content in the database has been disabled

- All Tables
- ANGAJATI
  - ANGAJATI : Table

Field Name	Data Type	Description
MARCA ANGAJAT	AutoNumber	
Numele si prenumele	Text	
Localitate de domiciliu	Text	
Adresa	Text	
Salariu	Number	

**Microsoft Office Access**

**You must first save the table.**

Do you want to save the table now?

# Se introduc inregistrarile:

Table Tools SOCIETATEA COMERCIALA 1 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Datasheet

View Paste Copy Format Painter Font Rich Text Records Sort & Filter Find

Security Warning Certain content in the database has been disabled Options...

All Tables << ANGAJATI

MARCA ANG	Numele si p	Localitate de	Adresa	Salariu	Add New Field
* (New)					

Table Tools SOCIETATEA COMERCIALA 1 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Datasheet

View New Field Add Existing Fields Lookup Column Insert Delete Rename Fields & Columns Data Type & Formatting Relationships Object Dependencies Relationships

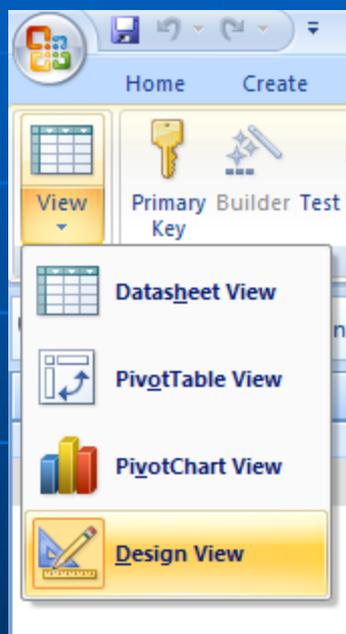
Security Warning Certain content in the database has been disabled Options...

All Tables << ANGAJATI

MARCA ANG	Numele si prent	Localitate de domiciliu	Adresa	Salariu	Add New Field
	1 Astafei Ionel	Satu Mare	Strada Primave	2,000.00	
	2 Berindean Ioan	Carei	Strada Libertat	1,500.00	
	3 Caprar Calin	Baia Mare	Strada Lupsa nr	1,800.00	
	4 Danciu Alexandru	Satu Mare	Strada Aradulu	800.00	
	5 Fekete Aurel	Petea	Strada Principa	900.00	
	6 Sopterean Ioan	Acas	Strada Muncii r	1,300.00	
* (New)					

## Pasul 6 Crearea filtrelor (constrangerilor):

- Reguli ce pot fi impuse in interiorul unor coloane



The image shows the Microsoft Access database design view for the 'ANGAJATI' table. The table structure is as follows:

Field Name	Data Type
MARCA ANGAJAT	Number
Numele si prenumele	Text
Localitate de domiciliu	Text
Adresa	Text
Salariu	Number

Below the table structure is the 'Field Properties' pane. The 'General' tab is selected, and the 'Validation Rule' property is highlighted with a red arrow. The properties are:

Property	Value
Field Size	Long Integer
Format	Standard
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Indexed	No
Smart Tags	
Text Align	General

ANGAJATI

Field Name	Data Type	Description
MARCA ANGAJAT	Number	
Numele si prenumele	Text	
Localitate de domiciliu	Text	
Adresa	Text	
Salariu	Number	

**Expression Builder**

OK  
Cancel  
Undo  
Help

+ - / \* & = > <<> And Or Not Like ( ) Paste

Functions  
Constants  
Operators

Field Properties

General

Field Size	Long Integer
Format	Standard
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	...
Validation Text	
Required	No
Indexed	No
Smart Tags	
Text Align	General

An expression that limits the values that can be entered in the field. Press F1 for help on validation rules.

Field Name	Data Type	Description
MARCA ANGAJAT	Number	
Numele si prenumele	Text	
Localitate de domiciliu	Text	
Adresa	Text	
Salariu	Number	

**Expression Builder**

salariu >=600

OK Cancel Undo Help

+ - / \* & = > < <> And Or Not Like ( ) Paste

Functions Constants Operators

Field Properties

General Lookup

Field Size	Long Integer
Format	Standard
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	...
Validation Text	
Required	No
Indexed	No
Smart Tags	
Text Align	General

An expression that limits the values that can be entered in the field. Press F1 for help on validation rules.

Field Name	Data Type	Description
MARCA ANGAJAT	Number	
Numele si prenumele	Text	
Localitate de domiciliu	Text	
Adresa	Text	
Salariu	Number	

Field Properties

General	
Field Size	Long Integer
Format	Standard
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	[salariu] > =600
Validation Text	Salariul minim este 600
Required	No
Indexed	No
Smart Tags	
Text Align	General

The error message that appears when you enter a value prohibited by the validation rule. Press F1 for help on validation text.



SOCIETATEA COMERCIALA 1 : Database (Access 2007) - Microsoft Access

Table Tools

Home Create External Data Database Tools Datasheet

View Paste Copy Format Painter

Clipboard

Calibri 11

Font

Rich Text

Records

Sort & Filter

Find

Security Warning Certain content in the database has been disabled Options...

All Tables

ANGAJATI

ANGAJATI: Table

MARCA ANG	Numele si preni	Localitate de domiciliu	Adresa	Salariu	Add New Field
1	Astafei Ionel	Satu Mare	Strada Primave	2,000.00	
2	Berindean Ioan	Carei	Strada Libertat	1,500.00	
3	Caprar Calin	Baia Mare	Strada Lupsa nr	1,800.00	
4	Danciu Alexandru	Satu Mare	Strada Aradulu	800.00	
5	Fekete Aurel	Petea	Strada Principa	900.00	
6	Sopterean Ioan	Acas	Strada Muncii r	1,300.00	
*					

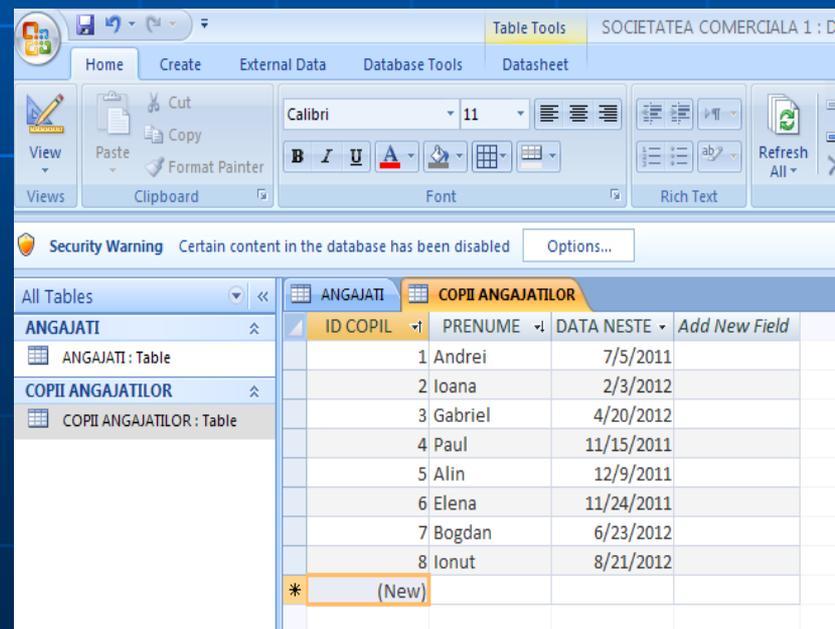
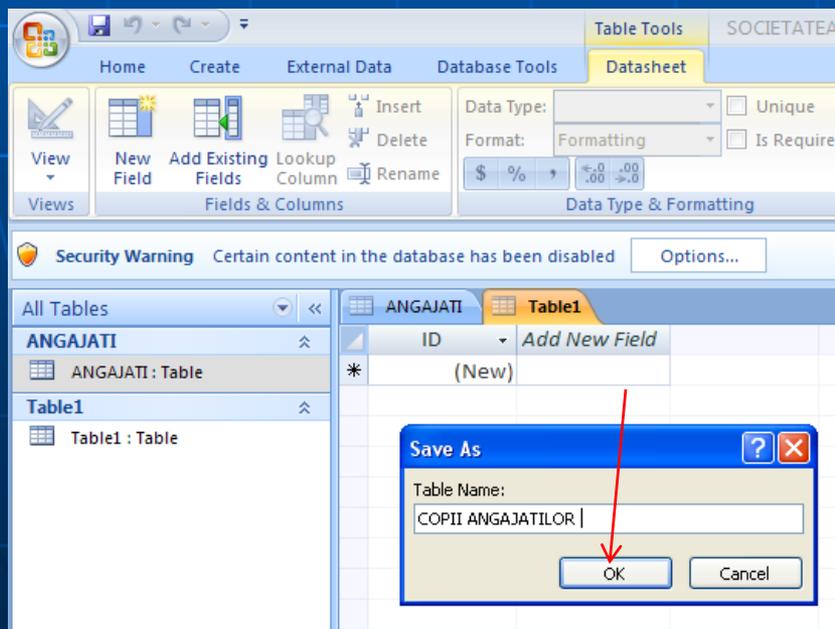
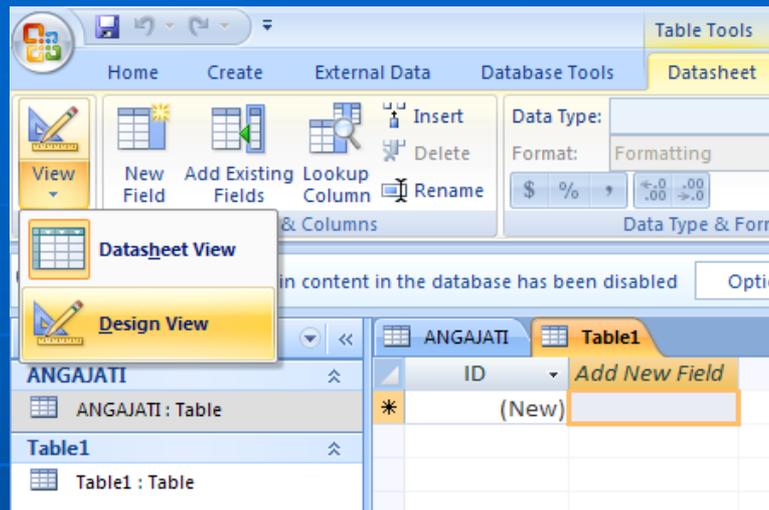
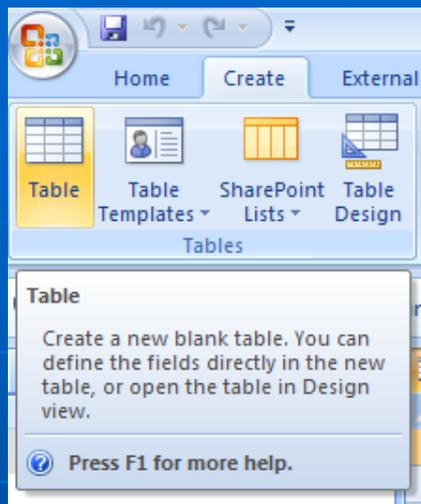
Alte tipuri de filtre:

- de tip *Primary Key*,
- de tip *Unique*,
- de tip *Not Null*,
- de tip *Foreign Key*

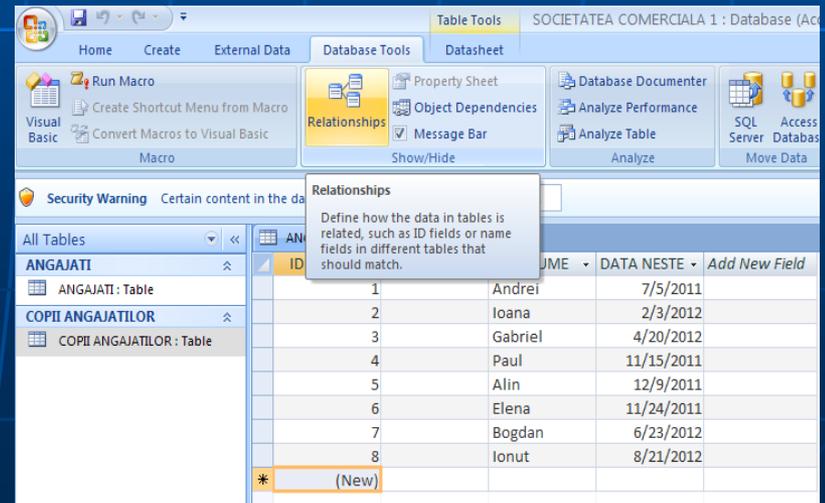
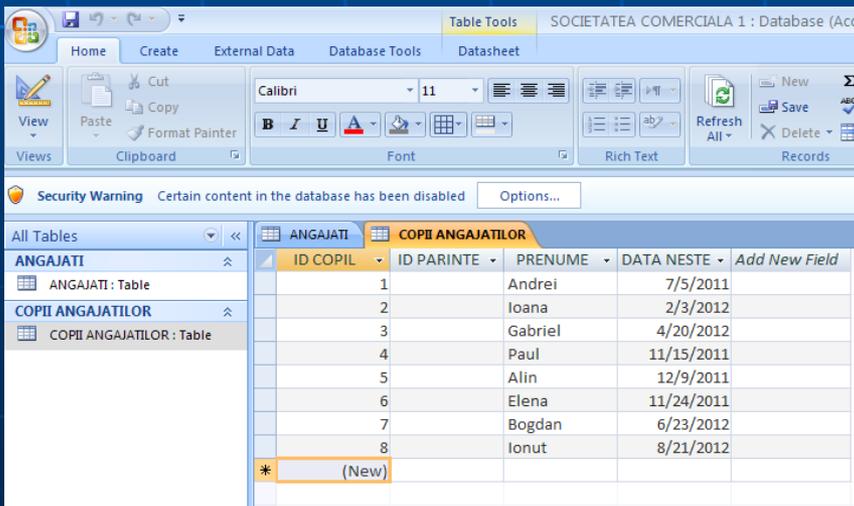
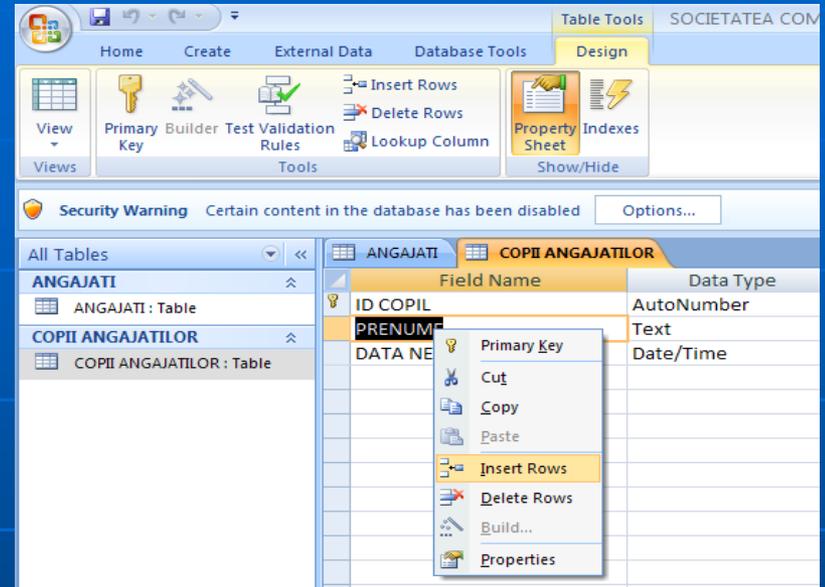
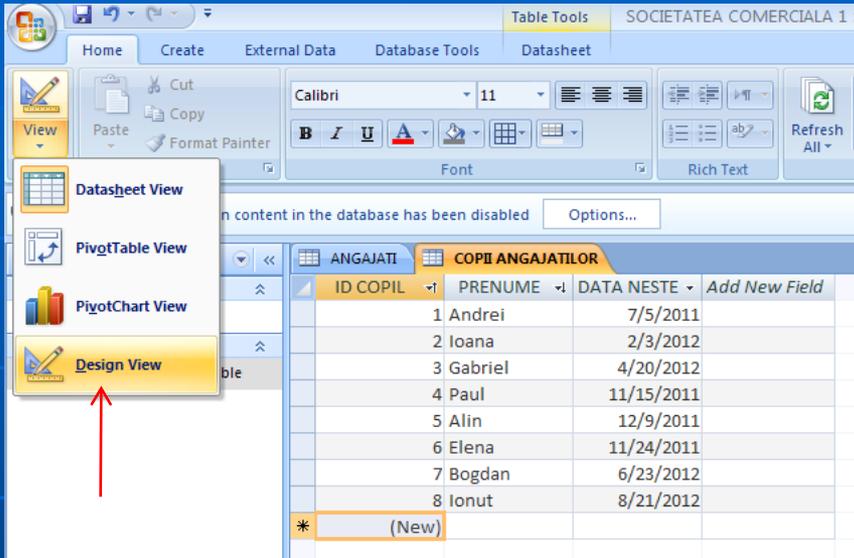
## Pasul 7 Crearea **relatiilor**

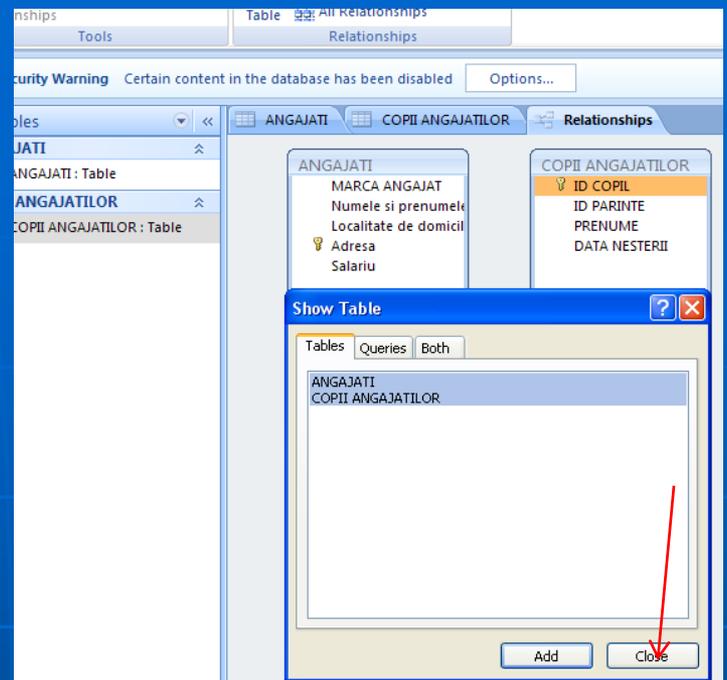
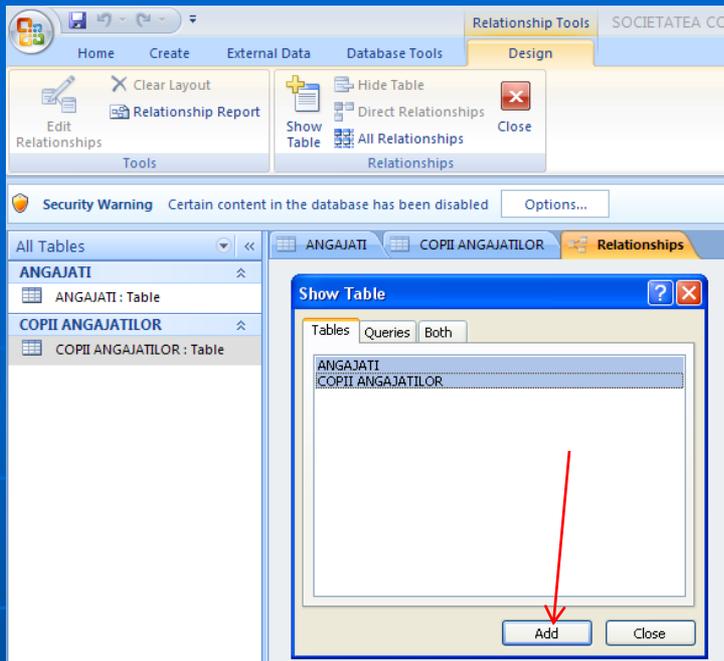
- ◇ Legatura dintre inregistrarile din mai multe tabele se realizeaza prin **relationarea** tabelelor din baza de date
- ◇ Deosebirea esentiala dintre o baza de date **Access** si un alt software (**Excel, Word**) este tocmai aceea ca obiectele, entitatile, tabelele din interiorul bazei de date sunt relationate.

# Exemplu: crearea unui tabel cu copii angajatilor

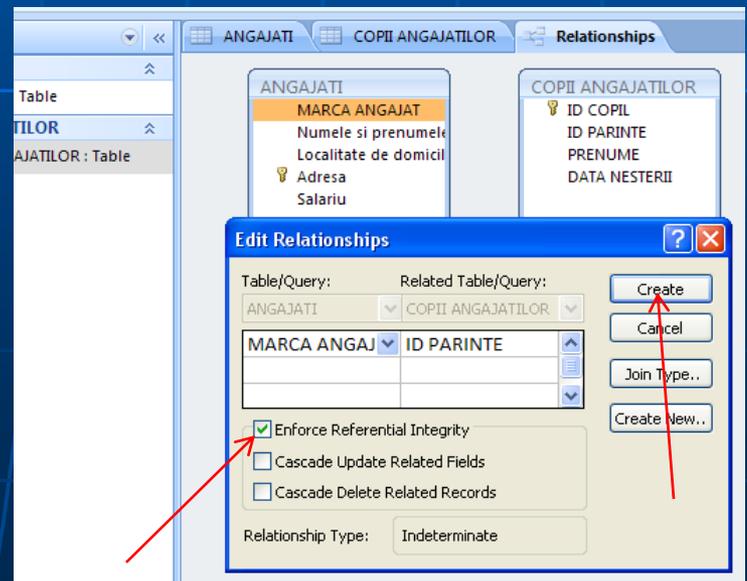
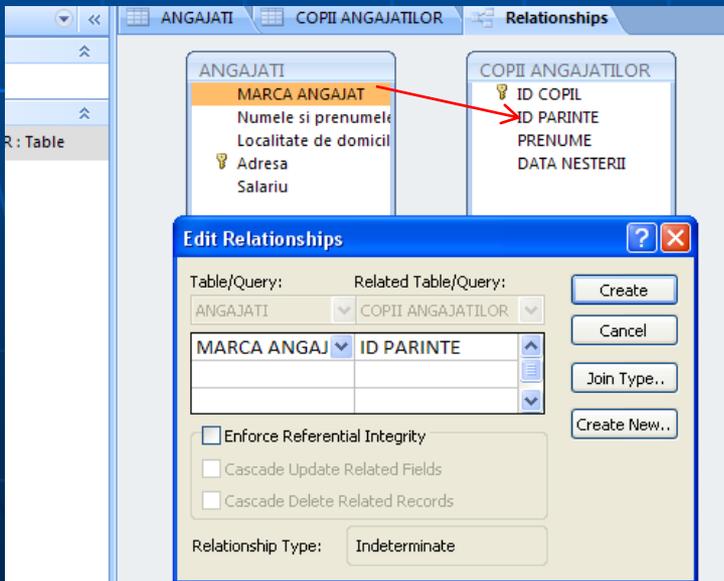


◇ Pentru a stabili corespondenta dintre cele 2 tabele, in tabelul "copii" se insereaza o noua coloana (field) ce va contine numarul de identificare al parintelui ID\_PARINTE.

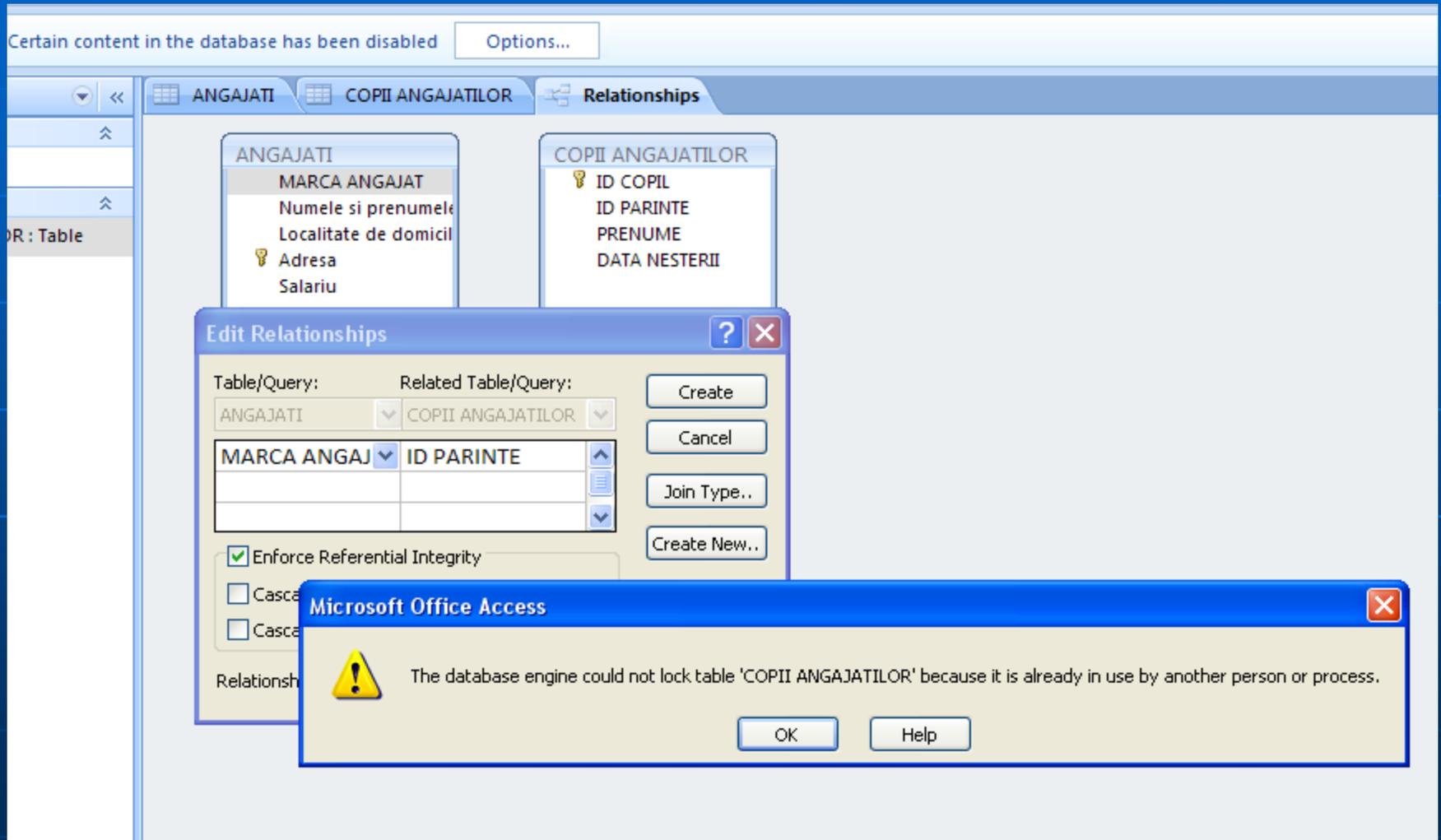




◇ (Drag&Drop) coloana MARCA ANGAJAT din ANGAJATI peste coloana ID\_Parinte din COPII



- ◇ Inainte de operatiunea CREATE se inchid tabelele; in caz contrar, apare mesajul de mai jos:



Certain content in the database has been disabled Options...

ANGAJATI COPII ANGAJATILOR Relationships

ANGAJATI

- MARCA ANGAJAT
- Numele si prenumele
- Localitate de domiciliu
- Adresa
- Salariu

COPII ANGAJATILOR

- ID COPII
- ID PARINTE
- PRENUME
- DATA NESTERII

Table/Query: ANGAJATI Related Table/Query: COPII ANGAJATILOR

MARCA ANGAJ ID PARINTE

Enforce Referential Integrity

Cascade

Cascade

Buttons: Create, Cancel, Join Type.., Create New..

Microsoft Office Access

 The database engine could not lock table 'COPII ANGAJATILOR' because it is already in use by another person or process.

Buttons: OK, Help

Relationships ANGAJATI COPII ANGAJATILOR

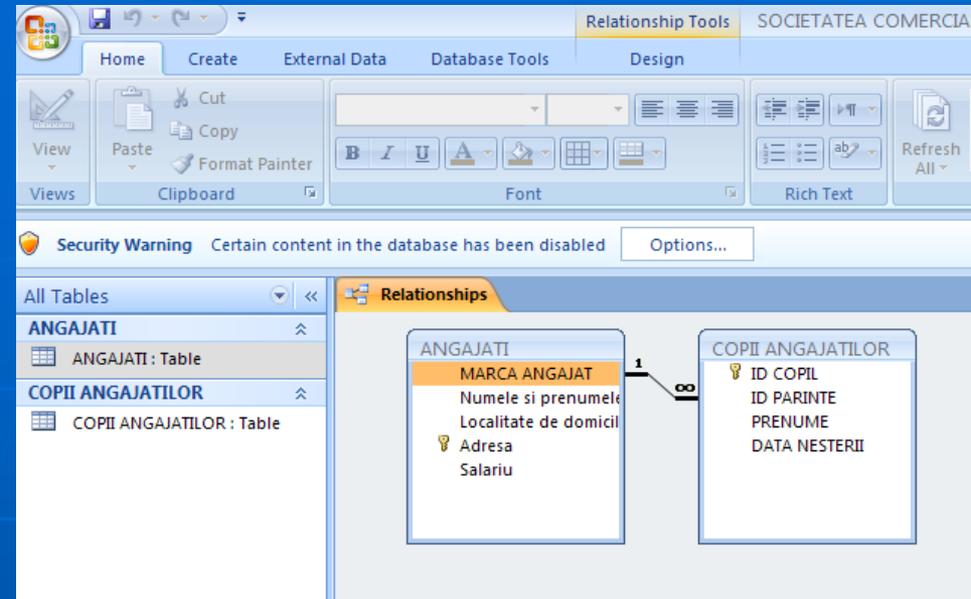
Field Name	Data Type
MARCA ANGAJAT	Number
Numele si prenumele	Text
Localitate de domiciliu	Text
Adresa	Text
Salariu	Number

Field Properties

General Lookup

Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Indexed	Yes (No Duplicates)
Smart Tags	
Text Align	General

◇ ATENTIE!!!



◇ Se deschide tabelul COPII si se completeaza ID PARINTE



◇ ATENTIE!!! Sa nu ramana prompterul pe ultima coloana

◇ Trebuie sa fie in aceasta pozitie

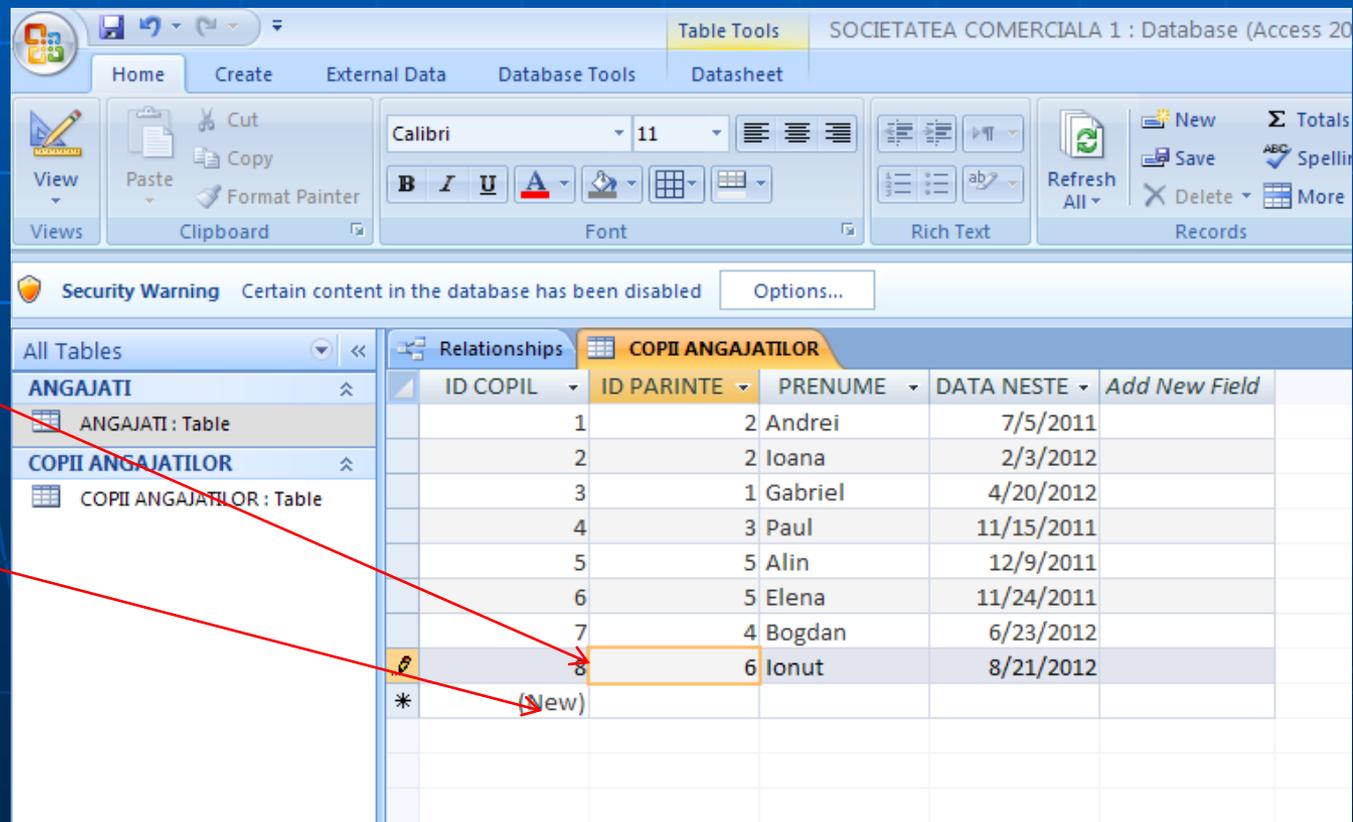


Table Tools SOCIETATEA COMERCIALA 1 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools Datasheet

Views Clipboard Font Rich Text Records Sort & Filter

Security Warning Certain content in the database has been disabled Options...

- All Tables
- ANGAJATI
    - ANGAJATI : Table
  - COPII ANGAJATILOR
    - COPII ANGAJATILOR : Table

Relationships		COPII ANGAJATILOR	ANGAJATI		
MARCA ANG	Numele si prent	Localitate de domiciliu	Adresa	Salariu	Add New Field
1	Astafei Ionel	Satu Mare	Strada Primave	2,000.00	
	ID COPIL	PRENUME	DATA NESTE	Add New Field	
	3	Gabriel	4/20/2012		
*	(New)				
2	Berindean Ioan	Carei	Strada Libertat	1,500.00	
	ID COPIL	PRENUME	DATA NESTE	Add New Field	
	1	Andrei	7/5/2011		
	2	Ioana	2/3/2012		
*	(New)				
3	Caprar Calin	Baia Mare	Strada Lupsa n	1,800.00	
	ID COPIL	PRENUME	DATA NESTE	Add New Field	
	4	Paul	11/15/2011		
*	(New)				
+	4	Danciu Alexandru	Satu Mare	Strada Aradulu	800.00
+	5	Fekete Aurel	Petea	Strada Principa	900.00
+	6	Sopterean Ioan	Acas	Strada Muncii r	1,300.00
*					

## Pasul 8 Crearea unei interogari

### Interogarea :

-una dintre cele mai puternice operatii in **Access**

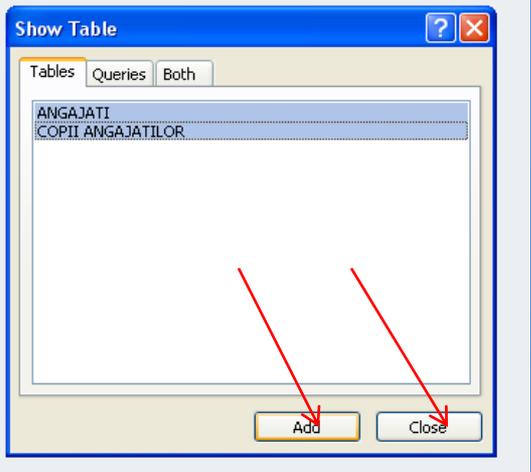
-se pot interoga ambele tabele in acelasi timp si e poate afla care este fiecare angajat, si care este copilul fiecarui angajat.

The screenshot displays the Microsoft Access 2007 interface. The ribbon is set to the 'Design' tab under 'Relationship Tools'. The 'Relationships' view is active, showing a one-to-many relationship between the 'ANGAJATI' table and the 'COPII ANGAJATILOR' table. The 'ANGAJATI' table contains fields: MARCA ANGAJAT, Numele si prenumele, Localitate de domiciliu, Adresa, and Salariu. The 'COPII ANGAJATILOR' table contains fields: ID COPII, ID PARINTE, PRENUME, and DATA NESTERII. A 'New Object: Query' dialog box is open on the right, providing instructions on how to create a new query in Design view.

**New Object: Query**

Create a new, blank query in Design view.

The Show Table dialog box is displayed, from which you can choose tables or queries to add to the query design.



Security Warning: Certain content in the database has been disabled. Options...

Relationships: Query1

ANGAJATI (1) \*  
MARCA ANGAJAT  
Numele si prenumele  
Localitate de domiciliu  
Adresa  
Salariu

COPII ANGAJATILOR (\*) \*  
ID COPIL  
ID PARIINTE  
PRENUME  
DATA NESTERII

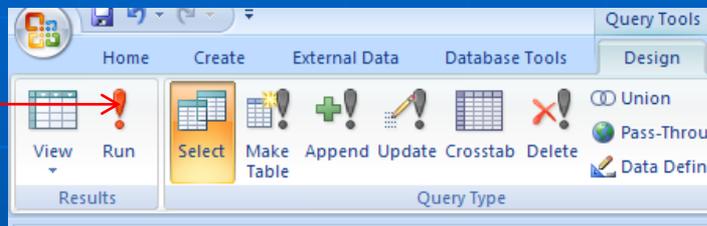
Property Sheet: Selection type: Query Properties  
General  
Description  
Default View: Data  
Output All Fields: No  
Top Values: All  
Unique Values: No  
Unique Records: No  
Source Database: (curr  
Source Connect Str  
Record Locks: No L  
Recordset Type: Dyna  
ODBC Timeout: 60  
Filter  
Order By  
Max Records  
Orientation: Left-  
Subdatasheet Name  
Link Child Fields  
Link Master Fields  
Subdatasheet Height: 0"  
Subdatasheet Expanded: No  
Filter On Load: No  
Order By On Load: Yes

Field:					
Table:					
Sort:					
Show:	<input type="checkbox"/>				
Criteria:					
or:					



Field:	Numele si prenumele	Salariu	PRENUME	DATA NASTERII
Table:	ANGAJATI	ANGAJATI	COPII ANGAJATILOR	COPII ANGAJATILOR
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:				
or:				

Se apasa **Run**



sau

SOCIETATEA COMERCIALA 1 : Database

Home Create External Data Database Tools

View Paste Copy Format Painter Clipboard

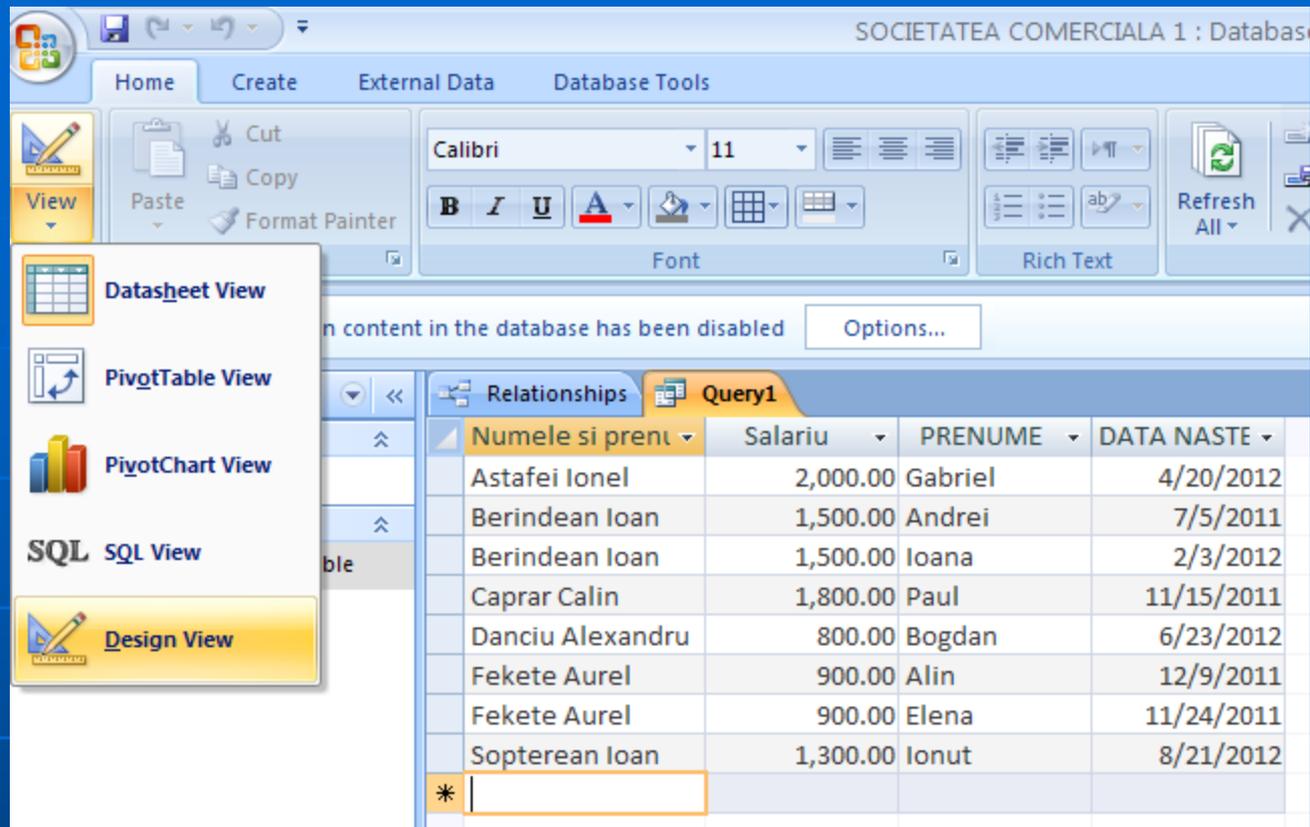
Calibri 11 Bold Italic Underline

Security Warning Certain content in the database has been disabled Options...

All Tables Relationships Query1

ANGAJATI	Numele si prenu	Salariu	PRENUME	DATA NASTE
ANGAJATI : Table	Astafei Ionel	2,000.00	Gabriel	4/20/2012
COPII ANGAJATILOR	Berindean Ioan	1,500.00	Andrei	7/5/2011
COPII ANGAJATILOR : Table	Berindean Ioan	1,500.00	Ioana	2/3/2012
	Caprar Calin	1,800.00	Paul	11/15/2011
	Danciu Alexandru	800.00	Bogdan	6/23/2012
	Fekete Aurel	900.00	Alin	12/9/2011
	Fekete Aurel	900.00	Elena	11/24/2011
	Sopterean Ioan	1,300.00	Ionut	8/21/2012
	*			

Unele informatii se repeta



Filtrarea tabelelor din **Access** stabilind niste conditii logice.

Field:	Numele si prenumele	Salariu	PRENUME	DATA NASTERII
Table:	ANGAJATI	ANGAJATI	COPII ANGAJATILOR	COPII ANGAJATILOR
Sort:				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:		>=1000		
or:				

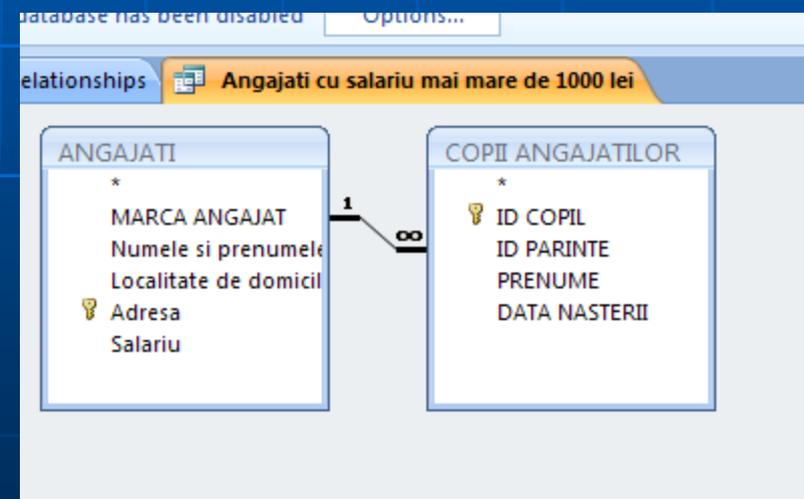
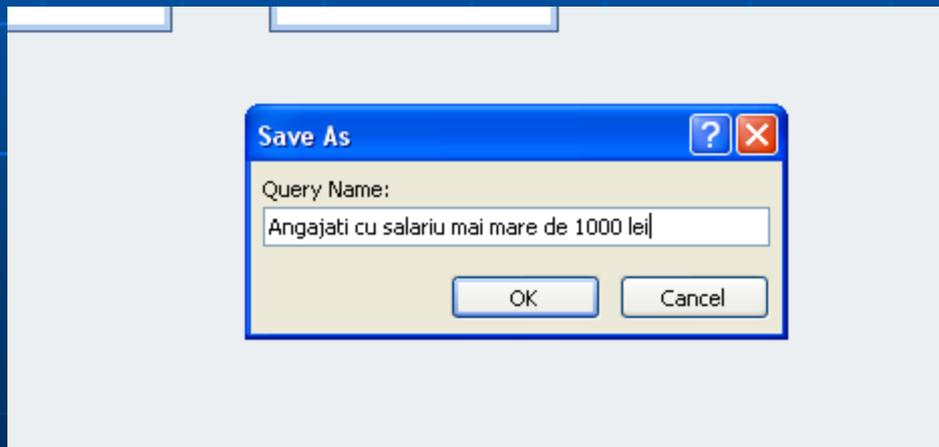
Views Clipboard Font Rich Text Recd

Security Warning Certain content in the database has been disabled Options...

All Tables Relationships Query1

ANGAJATI	Numele si prenu	Salariu	PRENUME	DATA NASTE
ANGAJATI : Table	Astafei Ionel	2,000.00	Gabriel	4/20/2012
COPII ANGAJATILOR	Berindean Ioan	1,500.00	Andrei	7/5/2011
COPII ANGAJATILOR : Table	Berindean Ioan	1,500.00	Ioana	2/3/2012
	Caprar Calin	1,800.00	Paul	11/15/2011
	Sopterean Ioan	1,300.00	Ionut	8/21/2012
	*			

Se salveaza:



Oricand interogarea poate fi modificata facand click dreapta pe ea si alegand **Design View**.

## **Pasul 9** Crearea unui **raport**

- Scopul unui raport: **sa prezinte datele intr-un mod care sa permita interpretarea cat mai facila**

**Un raport** reprezinta o situatie extrasa dintr-o baza de date

(o interogare) la care conteaza foarte mult:

- partea estetica (culori, tabele, border-uri, antet, subsol, conditional formatting, etc)
- modalitatea logica de afisare a datelor (grupari, sortari, etc)

SOCIETATEA COMERCIALA 1 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools

Table Table Templates SharePoint Lists Table Design Form Split Form Multiple Items More Forms Form Design Report Labels Blank Report Report Wizard Report Design Query Wizard Query Design Other

Security Warning Certain content in the database has been disabled Options...

All Tables << >>

ANGAJATI >

ANGAJATI : Table

Angajati cu salariu mai mare ...

COPII ANGAJATILOR >

COPII ANGAJATILOR : Table

Angajati cu salariu mai mare ...

**Report Wizard**

Launch the Report Wizard which helps you to create simple, customized reports.

Press F1 for more help.

SOCIETATEA COMERCIALA 1 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools

Table Table Templates SharePoint Lists Table Design Form Split Form Multiple Items More Forms Form Design Report Labels Blank Report Report Wizard Report Design Query Wizard Query Design Macro Other

Security Warning Certain content in the database has been disabled Options...

All Tables << >>

ANGAJATI >

ANGAJATI : Table

Angajati cu salariu mai mare ...

COPII ANGAJATILOR >

COPII ANGAJATILOR : Table

Angajati cu salariu mai mare ...

**Report Wizard**

Which fields do you want on your report?  
You can choose from more than one table or query.

Tables/Queries  
Table: ANGAJATI

Available Fields:  
MARCA ANGAJAT  
Numele si prenumele  
Localitate de domiciliu  
Adresa  
Salariu

Selected Fields:

Cancel < Back Next > Finish

- Se selecteaza prin dublu click campurile dorite

The screenshot displays the Microsoft Access 2007 interface for a database named "SOCIETATEA COMERCIALA 1". The ribbon is set to "Create", and the "Report Wizard" button is selected in the "Reports" group. A "Security Warning" message is visible at the top, stating "Certain content in the database has been disabled".

The left-hand pane shows a list of tables under "All Tables":

- ANGAJATI
  - ANGAJATI : Table
  - Angajati cu salariu mai mare ...
- COPII ANGAJATILOR
  - COPII ANGAJATILOR : Table
  - Angajati cu salariu mai mare ...

The "Report Wizard" dialog box is open, asking "Do you want to add any grouping levels?". It features a list of fields on the left: "Numele si prenumele", "Adresa", and "Salariu". The field "Numele si prenumele" is selected and highlighted. To the right of the list are navigation buttons: ">", "<", "Priority" (with up and down arrows), and a "Grouping Options ..." button. A large preview window on the right shows the text "Numele si prenumele, Adresa, Salariu". At the bottom of the dialog are "Cancel", "< Back", "Next >", and "Finish" buttons.

Home Create External Data Database Tools

Table Table Templates SharePoint Lists Table Design  
Forms

Form Split Form Multiple Items PivotChart Blank Form More Forms Form Design

Report Labels Blank Report Report Wizard Report Design

Query Wizard Query Design Macro

Security Warning Certain content in the database has been disabled Options...

- All Tables
- ANGAJATI
  - ANGAJATI : Table
  - Angajati cu salariu mai mare ...
- COPII ANGAJATILOR
  - COPII ANGAJATILOR : Table
  - Angajati cu salariu mai mare ...

### Report Wizard

What sort order do you want for your records?

You can sort records by up to four fields, in either ascending or descending order.

1	Salariu	Ascending
2		Ascending
3		Ascending
4		Ascending

Cancel < Back Next > Finish

Home

Create

External Data

Database Tools



Table

Table  
Templates ▾SharePoint  
Lists ▾Table  
Design

Tables



Form

Split  
FormMultiple  
Items

Blank Form

More Forms ▾

Form  
Design

Forms

PivotChart



Report

Labels

Blank Report

Report Wizard

Reports

Report  
DesignQuery  
WizardQuery  
DesignMacro  
▾

Other

**Security Warning** Certain content in the database has been disabled [Options...](#)

All Tables

ANGAJATI

ANGAJATI : Table

Angajati cu salariu mai mare ...

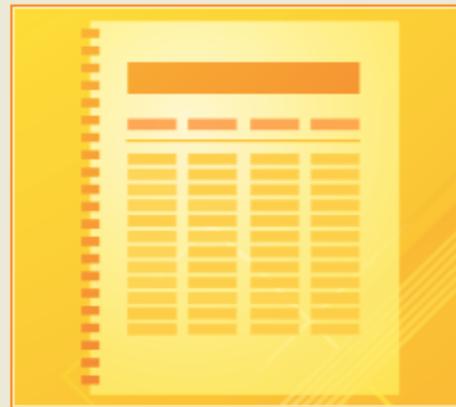
COPII ANGAJATILOR

COPII ANGAJATILOR : Table

Angajati cu salariu mai mare ...

## Report Wizard

How would you like to lay out your report?



Layout

- Columnar
- Tabular
- Justified

Orientation

- Portrait
- Landscape

 Adjust the field width so all fields fit on a page.

Cancel

&lt; Back

Next &gt;

Finish

Table Tools ribbon groups:

- Tables: Table, Table Templates, SharePoint Lists, Table Design
- Forms: Form, Split Form, Multiple Items, More Forms, PivotChart, Blank Form, Form Design
- Reports: Report, Labels, Blank Report, Report Wizard, Report Design
- Other: Query Wizard, Query Design, Macro

Security Warning: Certain content in the database has been disabled. Options...

All Tables

ANGAJATI
ANGAJATI : Table
Angajati cu salariu mai mare ...
COPII ANGAJATILOR
COPII ANGAJATILOR : Table
Angajati cu salariu mai mare ...

ANGAJATI

MARCA ANG	Numele
+	4 Danciu A
+	2 Berinde
+	3 Caprar C
+	6 Soptere
+	1 Astafei
+	5 Fekete A
*	

Report Wizard dialog box: What style would you like?

Style preview: Title, Label above Detail, Control from Detail

Style list:

- Access 2003
- Access 2007
- Apex
- Aspect
- Civic
- Concourse
- Equity
- Flow
- Foundry
- Median
- Metro
- Module
- None
- Northwind

Buttons: Cancel, < Back, Next >, Finish

Home Create External Data Database Tools

Table Table Templates SharePoint Lists Table Design  
Forms

Form Split Form Multiple Items Blank Form More Forms Form Design  
Forms

Report Labels Blank Report Report Wizard Report Design  
Reports

Query Wizard Query Design Macro  
Other

Security Warning Certain content in the database has been disabled Options...

All Tables

ANGAJATI
ANGAJATI : Table
Angajati cu salariu mai mare ...
COPII ANGAJATILOR
COPII ANGAJATILOR : Table
Angajati cu salariu mai mare ...

## Report Wizard



What title do you want for your report?

ANGAJATI

That's all the information the wizard needs to create your report.

Do you want to preview the report or modify the report's design?

Preview the report.

Modify the report's design.

Cancel

< Back

Next >

Finish

## Print Preview

Print Preview toolbar:

- Print
- Size
- Portrait
- Landscape
- Margins
- Show Margins
- Print Data Only
- Page Setup
- Columns
- Zoom
- One Page
- Two Pages
- More Pages
- Refresh All
- Excel
- SharePoint List
- Word
- Text File
- More
- Close Print Preview
- Close Preview

**Security Warning** Certain content in the database has been disabled

Options...

All Tables

ANGAJATI

ANGAJATI

ANGAJATI

ANGAJATI : Table

Angajati cu salariu mai mare ...

ANGAJATI

COPII ANGAJATILOR

COPII ANGAJATILOR : Table

Angajati cu salariu mai mare ...

## ANGAJATI

Salariu	Numele si prenumele	Adresa
800	Danciu Alexandru	Strada Aradului nr. 5
900	Fekete Aurel	Strada Principala nr. 6
1300	Sopterean Ioan	Strada Muncii nr 8
1500	Berindean Ioan	Strada Libertatii nr. 2
1800	Caprar Calin	Strada Lupsa nr. 34
2000	Astafei Ionel	Strada Primaverii nr. 11

## Formatarea Conditionata

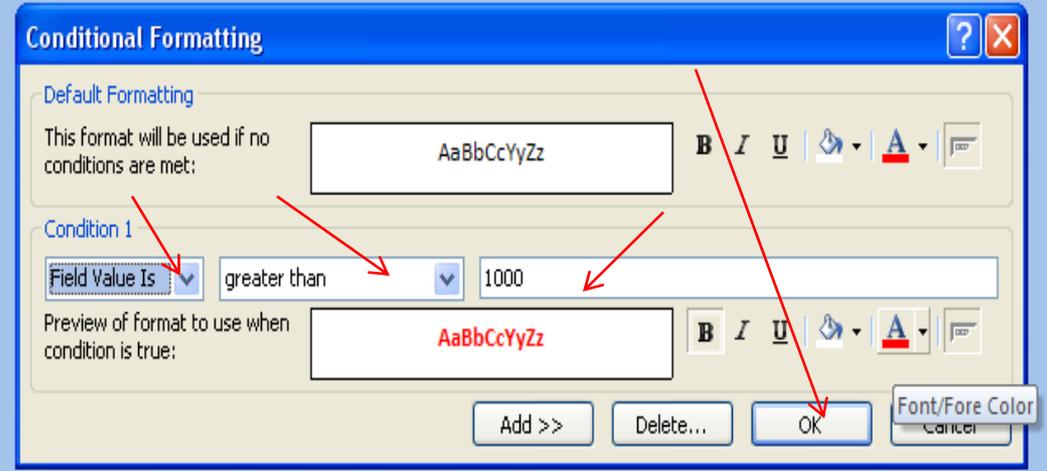
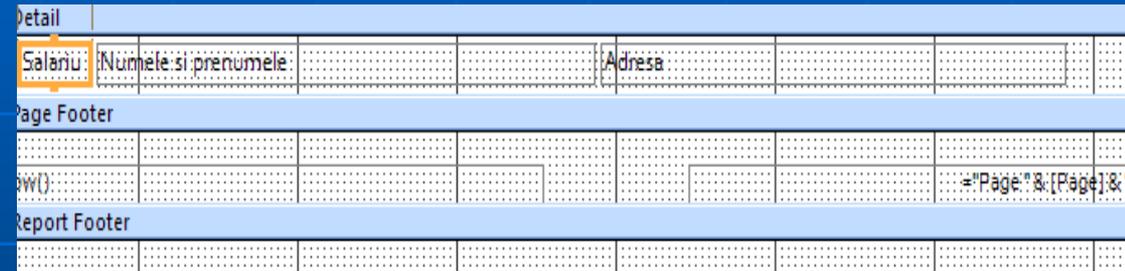
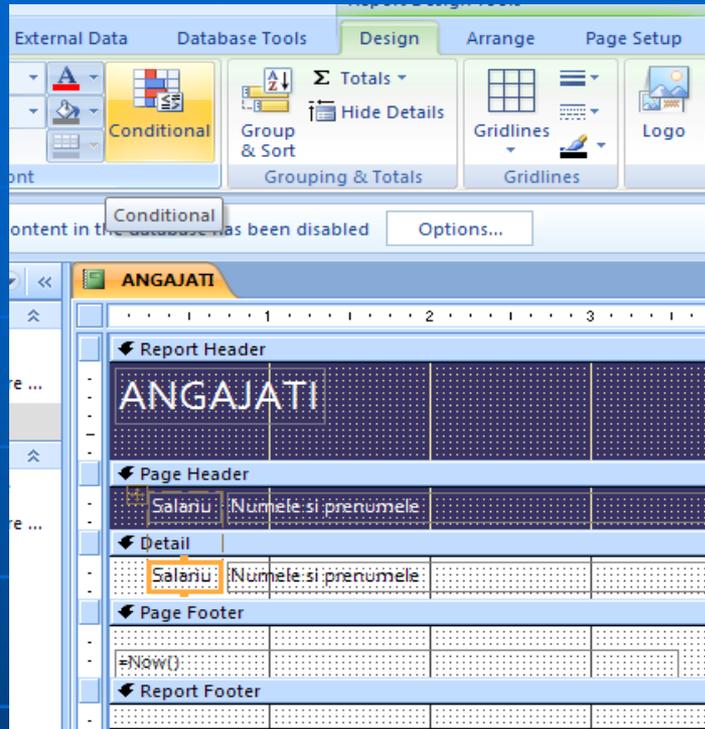
-impunerea unei conditii logice pe o anumita coloana astfel incat acele valori care indeplinesc acea conditie sa fie scoase in evidenta intr-un anumit fel

Exemplu: in raportul anterior se selecteaza **Design view**:

The screenshot shows the Microsoft Access interface with the Report Design Tools ribbon active. The ribbon includes tabs for Home, Create, External Data, Database Tools, Design, Arrange, and Page Setup. The Design tab is selected, showing various tool groups: Font, Grouping & Totals, Gridlines, Controls, and Add Existing Fields. A dropdown menu is open under the View button, showing options for Report View, Print Preview, Layout View, and Design View, with Design View highlighted. The main window displays a report titled 'ANGAJATI' in Design View. The report structure is as follows:

- Report Header:** Contains the title 'ANGAJATI'.
- Page Header:** Contains a table with columns: Salariu, Numele si prenumele, Adresa.
- Detail:** Contains a table with columns: Salariu, Numele si prenumele, Adresa.
- Page Footer:** Contains a table with columns: =Now(), =Page & [Page] & ' of ' & [Page].
- Report Footer:** (Empty table).

Se selecteaza coloana SALARIU si se apasa butonul CONDITIONAL



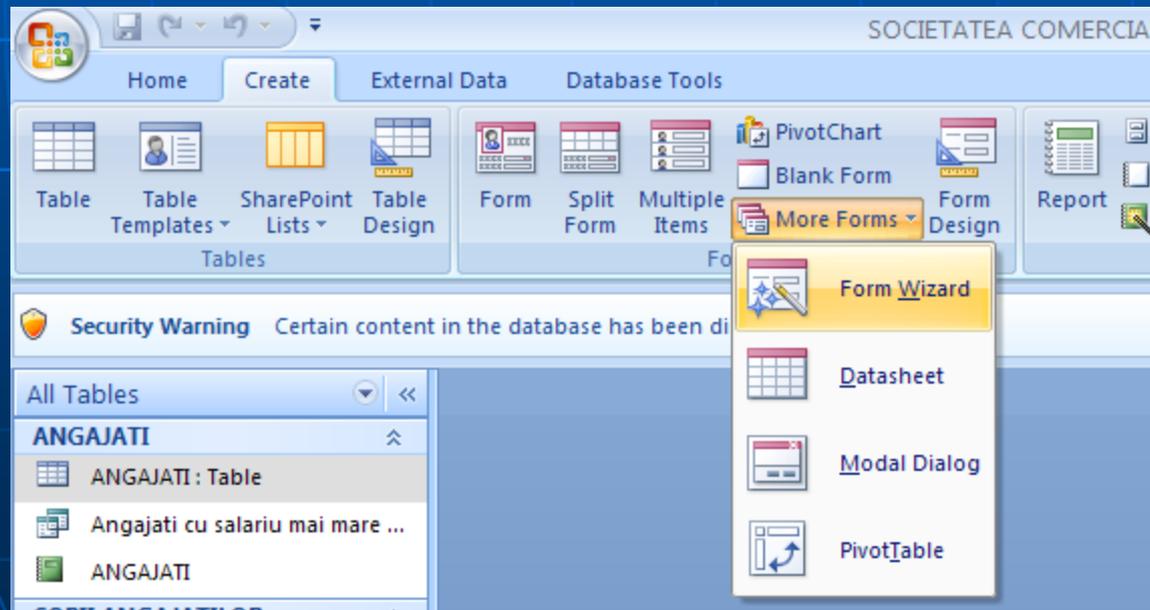
## ANGAJATI

Salariu	Numele si prenumele	Adresa
800	Danciu Alexandru	Strada Aradului nr. 5
900	Fekete Aurel	Strada Principala nr.6
1300	Sopterean Ioan	Strada Muncii nr 8
1500	Berindean Ioan	Strada Libertatii nr. 2
1800	Caprar Calin	Strada Lupsa nr. 34
2000	Astafei Ionel	Strada Primaverii nr. 11

## Pasul 10 Crearea unui formular

**Formularele** - obiecte din interiorul unei baze de date care ajuta la introducerea sau modificarea datelor din tabele intr-un mod mult mai placut si mai usor decat apeland **Design view**

Din meniul **Create** se alege **More Froms** > **Form Wizard** pentru crearea unui formular.



Se aleg, din cele doua tabele, campurile care ne intereseaza:

Form Wizard



Which fields do you want on your form?  
You can choose from more than one table or query.

Tables/Queries

Table: COPII ANGAJATILOR

Table: ANGAJATI

Table: COPII ANGAJATILOR

Query: Angajati cu salariu mai mare de 1000 lei

Fields:

ID COPIL

nume si prenumele

Localitate de domiciliu

Salariu

ID PARINTE

PRENUME

DATA NASTERII

Cancel < Back Next > Finish

Se va decide care dintre cele doua tabele este **Parent**. Se alege tabela **ANGAJATI** si se apasa **Next**.

Form Wizard

How do you want to view your data?

by ANGAJATI  
by COPII ANGAJATILOR

Numele si prenumele, Localitate de domiciliu,  
Salariu

ID PARINTE, PRENUME, DATA NASTERII

Form with subform(s)     Linked forms

Cancel    < Back    Next >    Finish

Form Wizard

What layout would you like for your subform?

Tabular  
 Datasheet

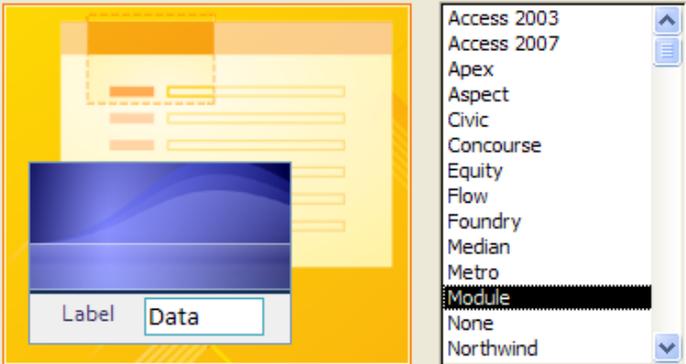
Cancel    < Back    Next >    Finish

Se va completa stilul ales pentru vizualizare precum si numele pentru formular si subformular:

- *Form de input Angajati-COPII*
- *COPII Subform*

Form Wizard

What style would you like?



Access 2003  
Access 2007  
Apex  
Aspect  
Civic  
Concourse  
Equity  
Flow  
Foundry  
Median  
Metro  
Module  
None  
Northwind

Label Data

Cancel < Back Next > Finish

Form Wizard

What titles do you want for your forms?

Form: ANGAJATI

Subform: COPII ANGAJATILOR Subform

That's all the information the wizard needs to create your form.

Do you want to open the form or modify the form's design?

Open the form to view or enter information.

Modify the form's design.

Cancel < Back Next > Finish

## ANGAJATI

Numele si prenumele

Localitate de domiciliu

Salariu

## COPII ANGAJATILOR

	ID PARINTE	PRENUME	DATA NASTERII
▶	4	Bogdan	6/23/2012
*	4		

Record: 1 of 1    No Filter Search

Pentru a trece la urmatorul angajat, se apasa butonul **Next Record**, din partea de jos.

Record: 1 of 1    No Filter Search

Next record

ANGAJATI

Numele si prenumele: Danciu Alexandru

Localitate de domiciliu: Satu Mare

Salariu: 800

COPII ANGAJATILOR

ID PARINTE	PRENUME	DATA NASTERII
4	Bogdan	6/23/2012
4	Alina	8/31/2012
4		

Record: 2 of 2 | No Filter | Search

Security Warning: Certain content in the database has been disabled

All Tables

- ANGAJATI
  - ANGAJATI : Table
  - Angajati cu salariu mai mare ...
  - ANGAJATI
  - ANGAJATI
- COPII ANGAJATILOR
  - COPII ANGAJATILOR : Table
  - Angajati cu salariu mai mare ...
  - COPII ANGAJATILOR Subform

COPII ANGAJATILOR

ID COPII	ID PARINTE	PRENUME	DATA NASTE	Add New Field
1	2	Andrei	7/5/2011	
2	2	Ioana	2/3/2012	
3	1	Gabriel	4/20/2012	
4	3	Paul	11/15/2011	
5	5	Alin	12/9/2011	
6	5	Elena	11/24/2011	
7	4	Bogdan	6/23/2012	
8	6	Ionut	8/21/2012	
9	4	Alina	8/31/2012	
*		(New)		

**Formularele** reprezinta **ferestre** ce permit **adaugarea, modificarea, stergerea** datelor dintr-o baza de date.

# INTEROGARI PARAMETRIZATE

**Interogările parametrizate sunt** acele interogari ce depind de o valoare de intrare, de un parametru

**Exercitiul 1:** Gasirea clientilor dintr-un oras (Bucuresti de ex.)

- Pasi:**
- deschiderea bazei de date **Interogari parametrizate** si a tabelul **CLIENTI**
  - creare interogare (create - Query Design)
  - completare campuri nume, prenume, orasul
  - introducere criteriu oras "Bucuresti"
  - executare

-de fiecare data cand se refoloseste aceasta interogare ea afiseaza numai clientii din Bucuresti, iar pentru alt oras trebuie refacuta interogarea.

**Rezolvare:**

- se declara valoarea **Bucuresti** ca fiind un **parametru**, scriind in loc de "Bucuresti" : [Introduceti orasul]
- cand ruleaza interogarea, utilizatorul va putea introduce alta valoare pentru parametru.

**Obs. Foarte importanta!!! Tot ce parametrizam scriem intre paranteze patrate**

## Exercitiul 2: Parametrizare dupa mai multe valori

- se deschide baza de date **Interogari parametrizate**
- se deschid tabelele **Cienti, Produse si Tranzactii** (se vizualizeaza datele din ele). Intre tabelele Cienti si Produse exista o relatie n la m (relatia este rezolvata de tabela Tranzactii)
- se inchid tabelele
- Se realizeaza o interogare cu tabelele **Cienti, Produse, Tranzactii**
- Se aleg campurile: **CLIENTI.NUME, CLIENTI.PRENUME, CLIENTI.ORASUL, PRODUSE.PRODUS, TRANZACTII.DATAT**
- Se scrie sub **Orasul** (in dreptul liniei **Criteriu**) : **[Scrieti Orasul]**
- Se scrie sub **DATAT** (in dreptul liniei **Criteria**) : **Between [Alegeti Data de inceput] And [Alegeti Data de sfarsit]**
- Se ruleaza interogarea introducand valorile: **Ploiesti , 01/01/2005, 01/01/2007**
- Se poate schimba ordinea de aparitie a parametrilor folosind fereastra **Parameters (pe care o putem alege doar in modul design)** :
  - Se apasa butonul **Parametri**
  - Se completeaza dupa dorinta ordinea de aparitie a parametrilor
- Se ruleaza interogarea
- Se Salveaza cu un **nume oarecare** interogarea

## 2. Interogari incrucisate (CrossTab Queries) - sinonim cu **Pivot Table** din **Excel**

- reprezinta o imagine de ansamblu asupra datelor din tabele
- probleme:
  - Care este coloana din tabelul nostru initial care va genera liniile in CrossTab Query? - *orasul*
  - Care este coloana din tabelul original ce va genera coloanele in CrossTab Query? - *profesia*
  - Care este coloana ce urmeaza a fi agregata? - *veniturile*

### Exemplul 1: Gasirea mediei veniturilor pe oras / profesie

- Create > Query**, click pe **Query Design**.
- Se selecteaza tabelul **clienti**, si se apasa **Add**, apoi **Close**.
- In Design**, se alege **Crosstab**
- Prima coloana aleasa este *Orasul*, iar in campul **Crosstab** se alege **Row Heading**.
- Se alege apoi coloana *Profesia*, unde se mentioneaza **Group By Column Heading**
- In coloana *VenitLunar*, unde nu mai este grupare, pe linia **TOTAL** se alege functia agregata **AVG** (*media*) iar la **Crosstab** se alege **Value**.
- Se apasa **Run** si se salveaza interogarea

## Media veniturilor Orase/Profesii

Orasul	avocat	inginer	manager	medic	trainer
Brasov	5000	4500	5500	4200	2000
Bucuresti	4000	3000	4300	2000	2500
Cluj	4500	3500	3000	4100	3000
Ploiesti	4500	7000	4400	2500	4000
Timisoara	5000	4000	4000	3000	1500

## Exemplul 2:

- Create > Query**, click pe **Query Design**.
- Se aleg toate cele 3 tabele, si se apasa **Add**, apoi **Close**.
- In Design**, sectiunea **Query Type**, trebuie sa se aleaga tipul **Crosstab**
- Se cer, pentru **fiecare oras, vanzarile pe fiecare an, iar la final – generarea unei coloane cu totalul vanzarilor**.
- Se alege: *Clienti.Orasul*
- *Group By-Row Heading*
- *CLIENTI.Profesia*
- *Group By-Row Heading*
- Urmatorul camp: **Year([DATAT])** -*Group By-Column Heading*
- I n coloana a 4-a, se introduce o formula care sa calculeze veniturile, ca Pret X Cantitate:

**Valoarea:  $Sum([Cantitatea]*[Pret])$**

- la **Total** se va alege **Expression**.
- La **Crosstab** se va alege **Value**.
- Daca se va dori vizualizarea sumei totale, se va adauga inca o coloana in designerul interogarii:
  - Total\_Valoare:  $Sum([Cantitatea]*[Pret])$** , la **Total** se va alege **Expression**, iar la **Crosstab** se va alege **Row Heading**
- Se apasa **Run** si se salveaza interogarea

### 3. Subinterogari (Subqueries)

-extragerea anumitor **valori relevante** din baza de date.

#### Exemplu :

-In tabela *Clienti* exista o coloana numerica denumita *Venit Lunar*

-gasirea **tuturor clientilor care au un venit lunar mai mare decat media**

-se va gasi mai intai **media**, apoi se vor gasi acei **clienti care au venitul peste acea medie**.

-Subinterogariile sunt dependente de alte interogari, subordonate.

#### interogari de tip **SQL**: Structured Query Language

-Cine are venituri peste medie?

-**In modul Query Design**, se alege doar tabela *Clienti*.

-Se alege modul de vizualizare al interogarii **SQL View**.

-Subinterogariile nu se pot scrie decat in interiorul acestui **SQL view**.

-Se va scrie:

```
SELECT AVG(VenitLunar)  
FROM CLIENTI
```

-Daca se va reveni in modul **Datasheet View**, se va vedea rezultatul interogarii: **media tuturor veniturilor lunare**.

-Se va modifica codul **SQL** astfel:

```
SELECT AVG (VenitLunar) as Media  
FROM CLIENTI;
```

si se va observa ca acum rezultatul are si un alias.

-Pentru a face subinterogarea sa afiseze doar acei clienti cu venitul peste medie, se va folosi DOAR ACEST RAND:

***Select \* from Clienti where VenitLunar >=(SELECT AVG (VenitLunar) as Media FROM CLIENTI);***

**Caracterul \* inlocuieste toate coloanele din tabela.**

***DESIGN VIEW SI SALVARE***

## 4 . Interogările Make Table

Ce sunt Interogările Make Table?

-Comenzi ce permit ***copierea unor linii dintr-o tabela in alta sau dintr-un Query intr-o tabela fizica***

- Query-urile NU Stocheaza DATE
- Pentru a stoca datele oferite de o interogare, se pot folosi MAKE TABLE Queries

### Exemplu

-Intr-o tabela numita Tranzactii\_Valoroase de ex. se pot stoca toate tranzactiile cu o valoare mai mare decat **1000**

-**Create > Query > Query Design**

-Se aleg primele 3 tabele

-numele clientului, produsul si valoarea tranzactiei (pret\*cantitate)

-Se filtreaza interogarea astfel incat sa returneze numai acele valori de peste **1000**

-Se ruleaza interogarea

Field:	Nume	Produs	Valoarea: [Produse].[Pret]*[Tranzactii].[Cantitatea]
Table:	CLIENTI	Produse	
Sort:			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:			>=1000
or:			

- Se face o interogare de tipul **Make Table**

-In modul de vizualizare **Design View**, se da click pe **Make Table**

-Se introduce numele tabelii: *Tranzactii\_Valoroase* si se apasa **OK**

-Tabela s-a creat in mod automat si poate fi vizualizata ca orice alta tabela

## 5. Interogari de tip modificare (Update Query)

-Permit automatizarea modificarilor in interiorul bazei de date.

### Exemplu:

-In tabela produse se doreste indexarea cu 3 Ron pentru fiecare pret al caiselor.

-Sunt 2 modalitati:

a) Se face o interogare care sa gaseasca liniile cu *Caise*, apoi se fac modificarile manual direct in interogare;

b) A doua varianta este folosirea unei comenzi de tip **Update Query**:

### Query:

-Se realizeaza query-ul care sa returneze toate produsele **caise**, si pretul aferent, alegand doar tabelul produse.

-Daca se ruleaza interogarea, se returneaza inregistrarea "caise".

Field:	Produs	Pret	
Table:	Produse	Produse	
Sort:			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Criteria:	Like '*Caise*'		
or:			

-Se pot face modificarile direct, manual, dar ar fi foarte greu de urmat acest pas daca exista un numar foarte mare de linii.

- Se reia designer-ul interogarii, si se alege tipul **Update**.
- Se Compleaza campurile astfel incat interogarea sa returneze produsele **Caise** si sa creasca pretul cu 3 unitati.

Field:	Pret
Table:	Produse
Update To:	[Produse].[Pret]+3
Criteria:	[Produse].[Produs] Like '*Caise*'
or:	

-RUN

Se poate scrie si codul **SQL**

```
UPDATE Produse SET Produse.Pret = [Produse].[Pret]+3  
WHERE (([Produse].[Produs] Like '*Caise*'));
```

## 6. Interogările de tip stergere (Delete Query)

- Sunt comenzi de tip **Delete** ce permit stergerea din baza de date a uneia sau a mai multor înregistrări, în funcție de o anumită condiție logică.
- Pentru a șterge o informație dintr-o tabelă Access se poate folosi o comandă numită **Delete Query**
  - Legătura dintre tabele se face pe baza unui **Relationship**

### Exemplu:

- În *relația* dintre tabelele de *Produse* și *Tranzacții* se dorește adăugarea unei opțiuni de ștergere (click dr. pe linia de legătură)
  - Se va bifa opțiunea **Cascade Delete Related Records**.
  - În clipa în care se șterg liniile din tabelă de produse ce conțin un anumit termen, se vor șterge și din tabelă de tranzacții acele linii care tin de produsul respectiv.

Relationship Tools      Firma : Database (Access 2007) - My Databases

External Data    Database Tools    Design

Hide Table  
Direct Relationships  
All Relationships  
Close

Produce    TRANZACTII    CLIENTI    Relationships

**CLIENTI**  
ID\_C  
Nume  
Prenume  
DataNasterii  
Orasul  
Profesia  
VenitLunar

**Produce**  
ID\_P  
Probus  
Descriere  
Pret  
Poza

**TRANZACTII**  
ID\_T  
ID\_C  
ID\_P  
DATAT  
Cantitatea

**Edit Relationships**

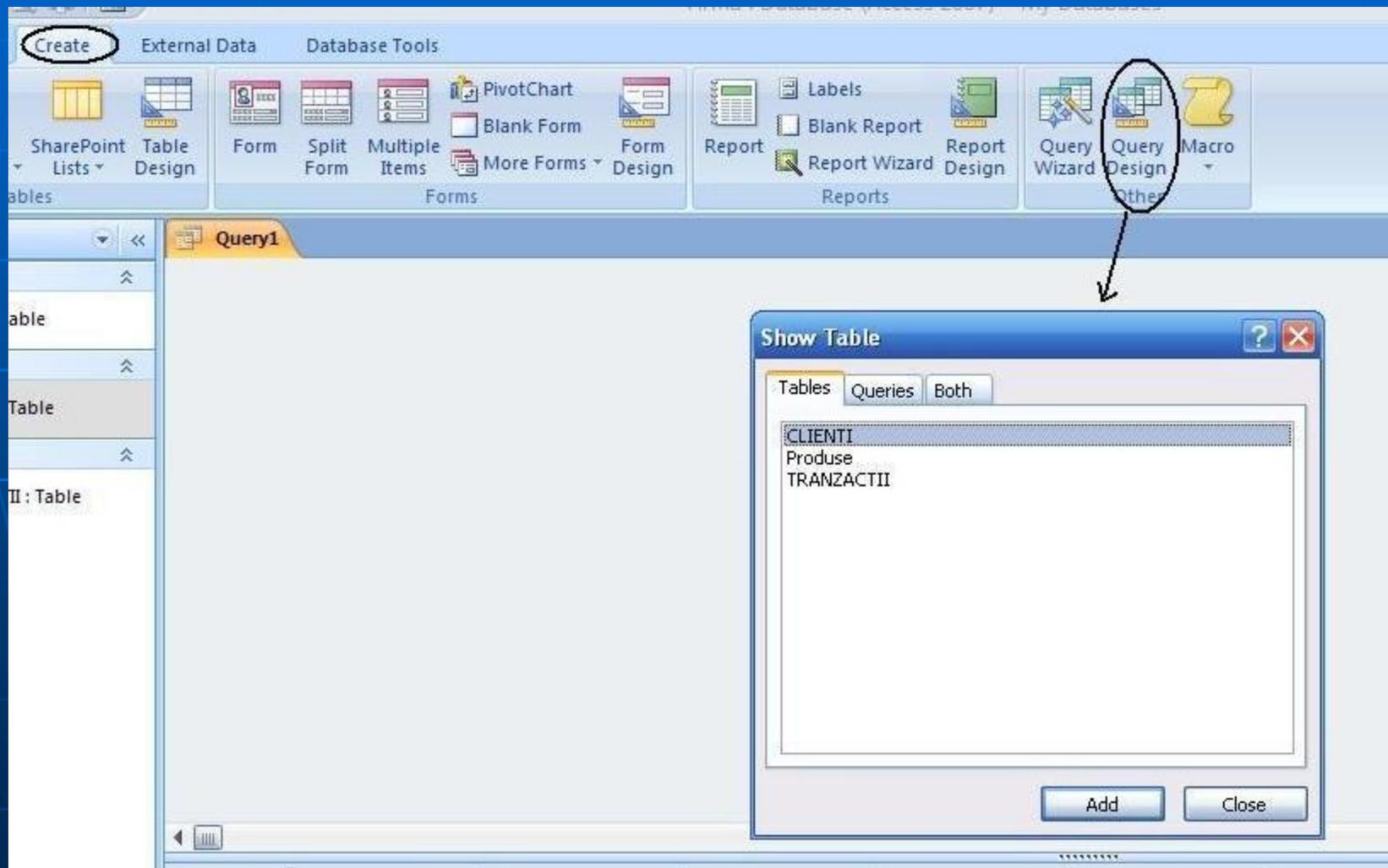
Table/Query:	Related Table/Query:
Produce	TRANZACTII
ID_P	ID_P

Enforce Referential Integrity  
 Cascade Update Related Fields  
 Cascade Delete Related Records

Relationship Type: One-To-Many

OK  
Cancel  
Join Type...  
Create New..

- Din **Ribbon-ul Create** se va alege optiunea **Query Design** pentru a face o stergere (*Query* de tip **Select**)
- Citeriul de cautare are comanda de cautare a termenului dorit .
- Daca se va rula acest query, el va gasi toate liniile ce contin acel cuvnt si pot fi sterse manual.



Home Create External Data Database Tools Design

Run Select Make Table Append Update Crosstab Delete Union Pass-Through Data Definition Insert Rows Delete Rows Builder Return: All Show Table Insert Columns Delete Columns Property Sheet Table Names Parameters Show/Hide

Query Type Query Setup

Tables

- CLIENTI : Table
- Produse : Table
- TRANZACTII : Table

Query1

Produse

- ID\_P
- Produs
- Descriere
- Pret
- Poza

Field:	Produs					
Table:	Produse					
Sort:						
Show:	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Criteria:	LIKE '*aise*					
or:						

The image shows a screenshot of the Microsoft Access interface. At the top, the ribbon is visible with the following sections:

- Views**: Contains a 'View' button with a pencil and ruler icon.
- Clipboard**: Contains 'Paste', 'Cut', 'Copy', and 'Format Painter' buttons.
- Font**: Shows 'Calibri' font and '11' size. It also includes buttons for Bold (B), Italic (I), Underline (U), text color (A), background color, and a grid icon.

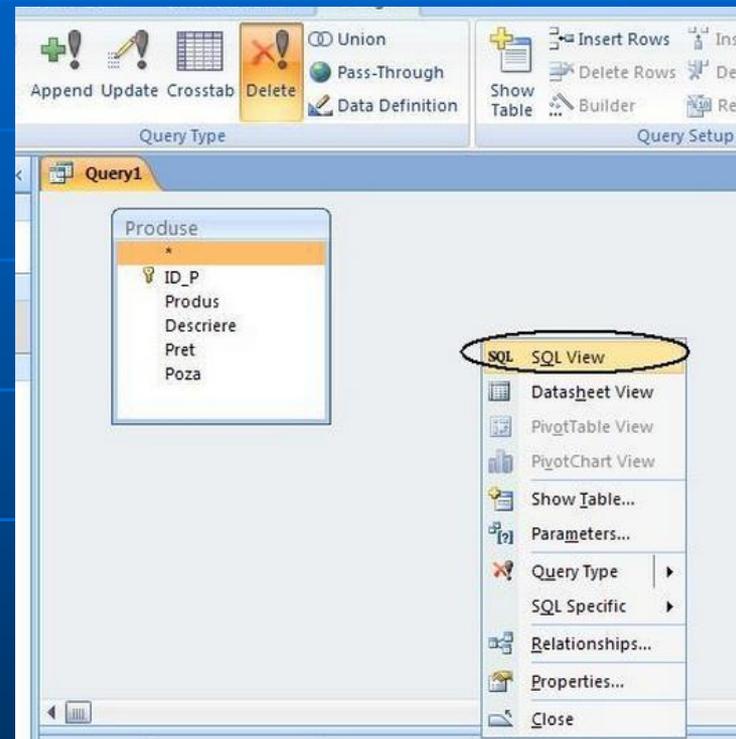
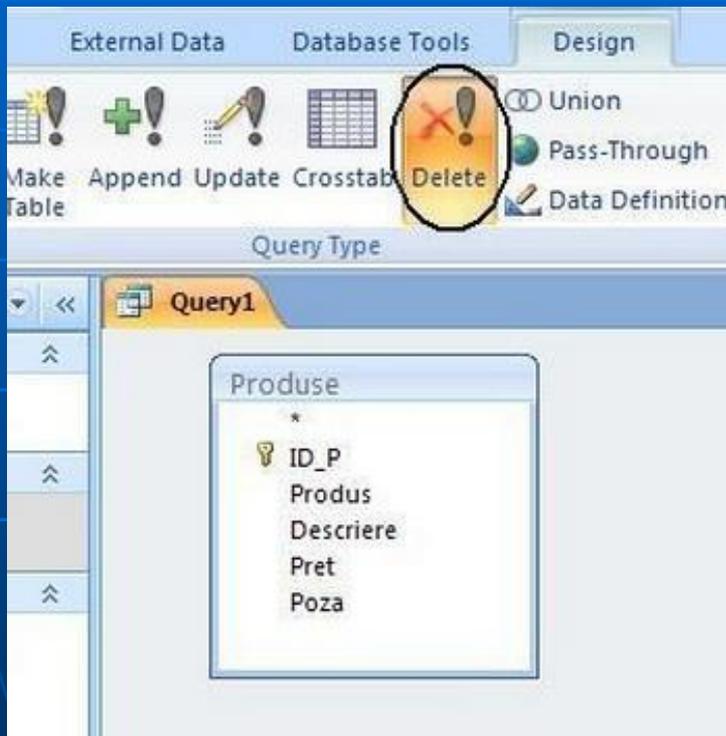
Below the ribbon, the 'All Tables' pane on the left lists the following tables:

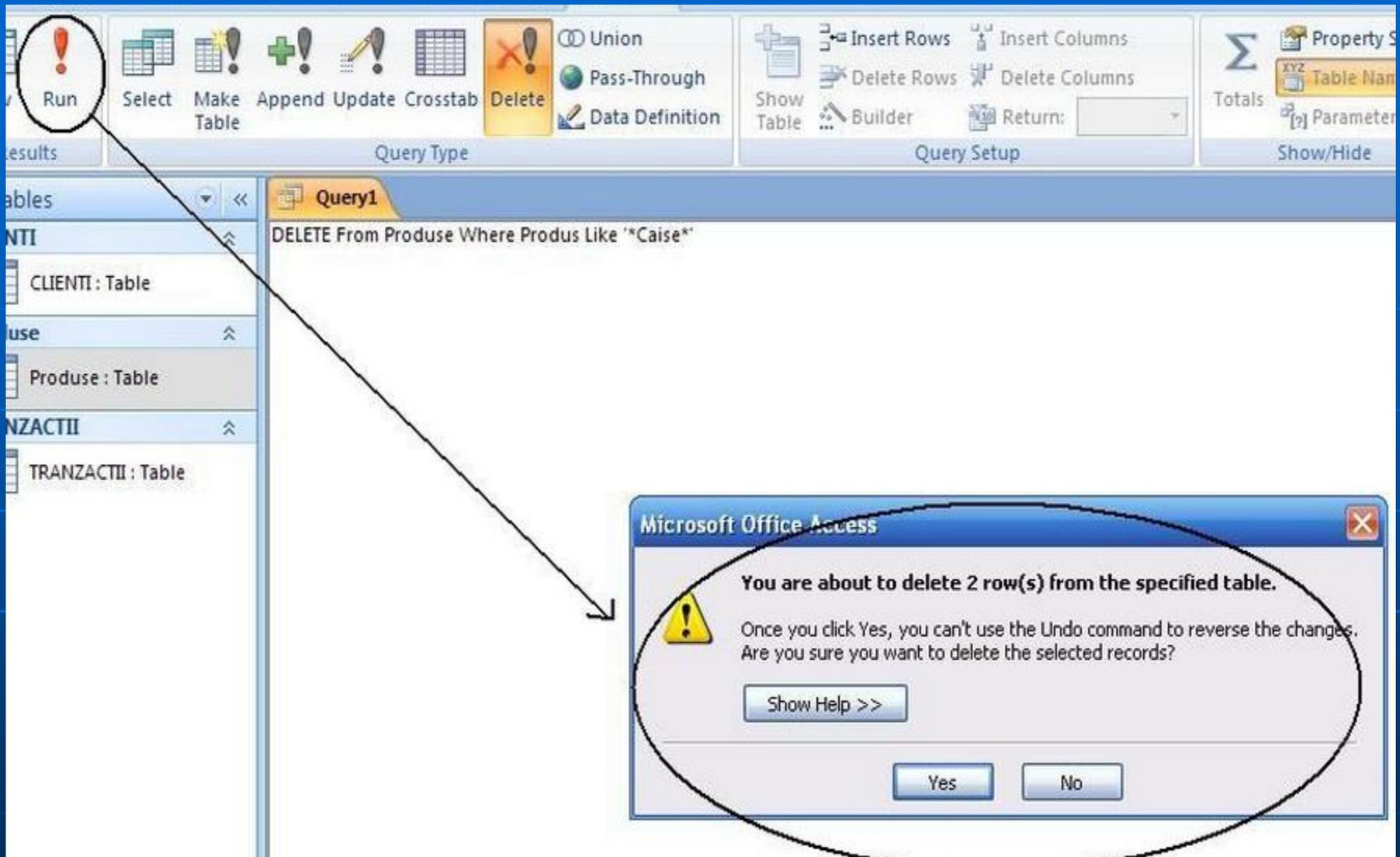
- CLIENTI
- Produse
- TRANZACTII

Each table name is accompanied by a small grid icon and the text ': Table'. The 'Produse' table is currently selected and highlighted in blue.

On the right, the 'Query1' window is open, displaying a table view. The table has a header row with the column name 'Produs'. The first data row contains the text 'Caise', which is highlighted in black. The second data row contains the text 'Caise de impor'. The table is preceded by an asterisk (\*) in the left margin.

- O alta metoda de stergere mai rezonabila este sa crearea unui *Query* de tip **Delete**.
- Aceasta metoda modifica *Designer-ul* si *comanda SQL*.



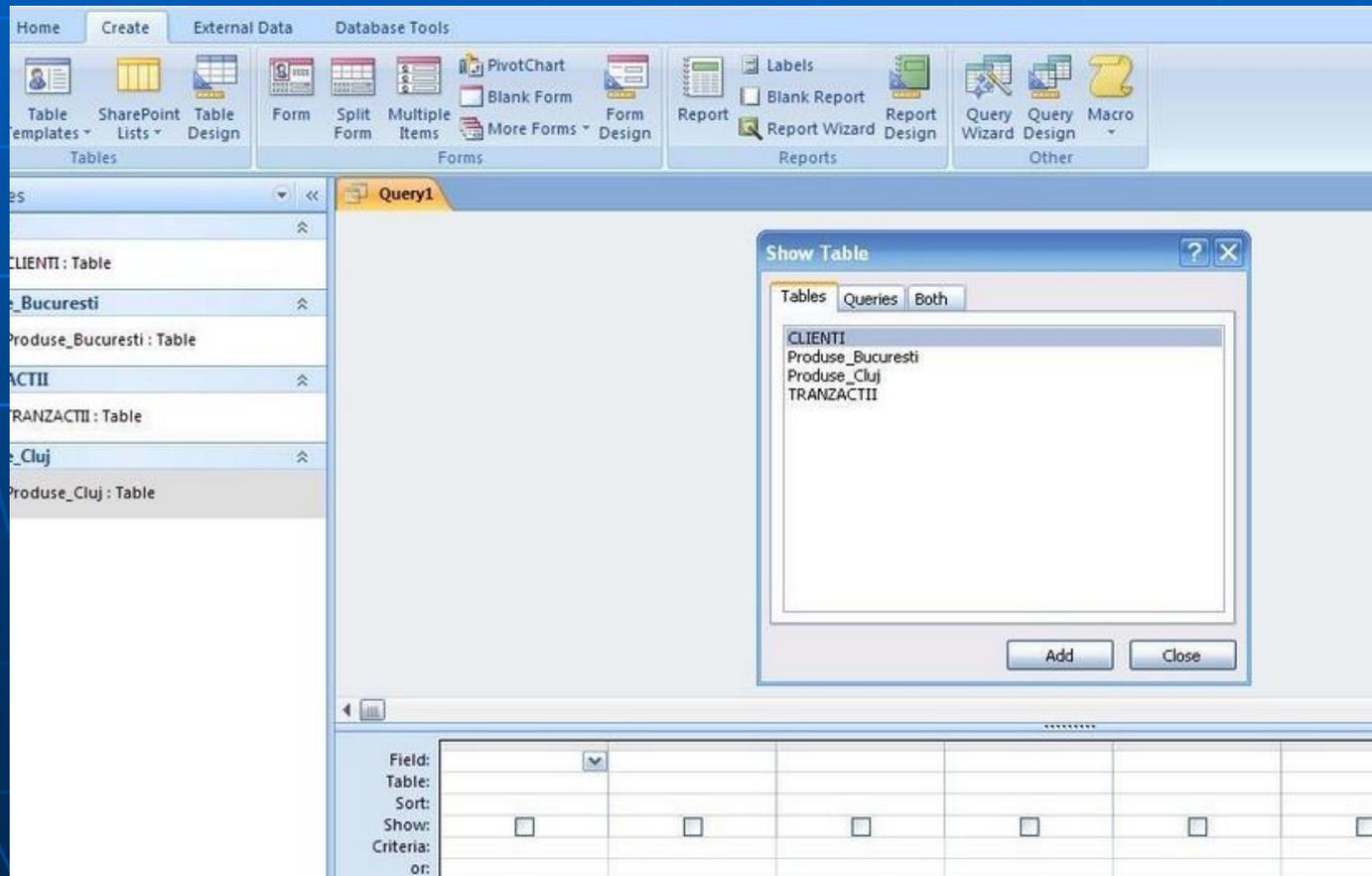


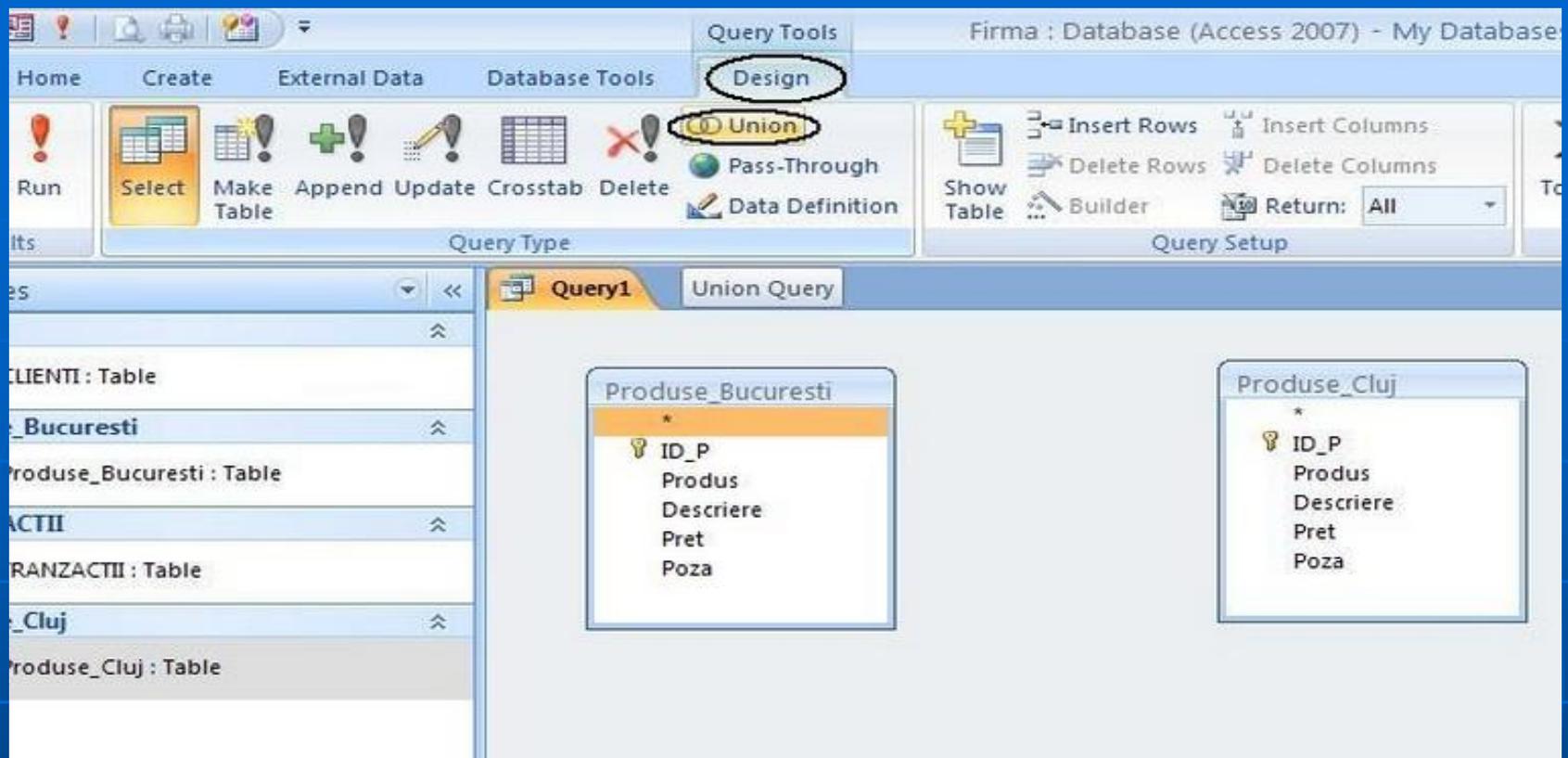
-In clipa in care se ruleaza acest query va fi o avertizare ca vor fi sterse acele linii ce contin cuvantul respectiv.

## 7. Interogari Union

-Din **Ribbon-ul Create** se va alege optiunea **Query Design**. Aici se aleg tabelele care se vor concatena.

-In cazul in care sunt mai multe tabele diferite dar identice din punct de vedere al structurii se vor crea **Select-uri** ce concateneaza datele din acele tabele





-In **Ribbon-ul Design** se va selecta optiunea **Union**.

-Operatorul **Union** nu mai are suport grafic, asa ca se vor scrie manual interogariile.

- Pentru a functiona **Union** trebuie sa existe acelasi numar de coloane iar tipurile de coloane sa fie identice.

**Select Produs, Descriere, Pret From Produse\_Bucuresti  
UNION Select Produs, Descriere, Pret From Produse\_Cluj**

-Operatorul **Union** face si sortare automata in prima coloana.