



TECHNICAL UNIVERSITY OF MOLDOVA

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## DB Laboratory 8

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**General purpose:**

Learn about SQL Query Language

**Tasks:**

- Answer Questions at the end of Chapter 8;
- Solve ex. 1 - 8 at the end of Chapter 8.

**Task Realization:**

In Figure 1 we can see the result of old Query from Lab 4 but now i inserted the result in a view.

```

--(1)    ---lab4(3)
CREATE VIEW Ex3Lab4 AS
    (SELECT DISTINCT D.Id_Disciplina, D.Disciplina,
        P.Nume_Profesor, P.Prenume_Profesor
    FROM [dbo].[Discipl] D
    JOIN [dbo].[SReusita] S_r ON D.Id_Disciplina = S_r.Id_Disciplina
    JOIN [dbo].[Prof] P ON P.Id_Profesor = S_r.Id_Profesor);
GO
SELECT * FROM Ex3Lab4
ORDER BY
    Nume_Profesor DESC,
    Prenume_Profesor DESC;

```

0 %

Results Messages

	Id_Disciplina	Disciplina	Nume_Profesor	Prenume_Profesor
1	100	Sisteme de operare	Popescu	Gabriel
2	101	Programarea calculatoarelor	Mocanu	Diana
3	102	Informatica aplicata	Munteanu	Alexandru
4	103	Sisteme de calcul	Popescu	Gabriel
5	104	Asamblare si depanare PC	Popescu	Gabriel
6	105	Cercetari operationale	Frent	Tudor
7	106	Programarea WEB	Mocanu	Diana
8	107	Baze de date	Micu	Elena
9	108	Structuri de date si algoritmi	Bivol	Ion
10	108	Structuri de date si algoritmi	Micu	Elena
11	109	Rețele informatice	Dogar	Alexandru
12	110	Matematica discreta	Olteanu	Andrei
13	111	Modelarea sistemelor	Nazarie	Alexandru
14	112	Limbaje evaluate de progr...	Negru	Sergiu
15	113	Programarea aplicatiilor W...	Mocanu	Diana

Figure 1: Query Ex1a

In Figure 1 we can see the result of another old Query from Lab 4 inserted in a view. Now it is created not with script.

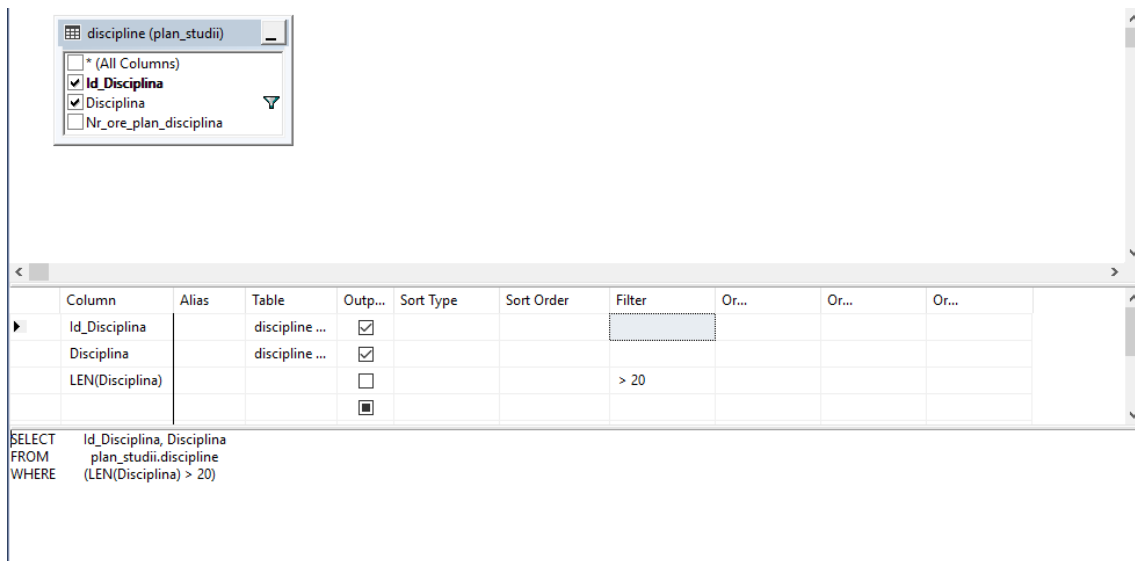


Figure 2: Query Ex1

In figure 3 I tried to modify a view but i gained an error because i used SCHEMABINDING and WITH CHECK OPTION. So it blocks any changes in initial tables.

```
--(3) -(4)
Use universitatea
Go

DROP VIEW IF EXISTS [dbo].[Ex4LAB4];
Go

CREATE VIEW [dbo].[Ex4LAB4] WITH SCHEMABINDING AS
SELECT Disciplina
FROM [plan_studii].discipline
WHERE LEN(Disciplina) > 20
WITH CHECK OPTION
Go

SELECT *
FROM [dbo].[Ex4LAB4];
Go

ALTER TABLE [plan_studii].Disciplina
DROP COLUMN discipline;
Go

UPDATE [dbo].[Ex4LAB4]
SET Disciplina = 'Deprecated'
WHERE Disciplina LIKE 'A%';
```

Figure 3: Query ex 3 and 4

In figure 4 and 5 i used old Query from lab 4 and rewrote them In CTE form

```

Use universitatea
Go
WITH StudNames(Nume_Student, Prenume_Student) AS
    (SELECT Nume_Student, Prenume_Student FROM [dbo].[Stdnt] WHERE Nume_Student LIKE '%u')
SELECT * FROM StudNames;
--(b)
WITH Marks(Id_Disciplina, Nota) AS (SELECT Id_Disciplina, Nota FROM [dbo].[SReusita] WHERE Tip_Evaluare = 'Examen')

```

Nume_Student	Prenume_Student
Brasovianu	Teodora
Cosovanu	Geanina
Diaconu	Samuel
Gheorghescu	Gabriel
Ghimpu	Eduard
Nicolescu	Aurel
Oncioiu	Costin-Ilie
Suciu	Ionut
Timu	Andrei
Vacareanu	Stefan
Lucaciu	Raul

Figure 4: Query ex 5a

```

--(b)
WITH Marks(Id_Disciplina, Nota) AS (SELECT Id_Disciplina, Nota FROM [dbo].[SReusita] WHERE Tip_Evaluare = 'Examen')
select TOP 1 AVG(Cast(Nota as decimal(4, 2))) as avg_nota, Id_Disciplina from Marks
group by Id_Disciplina
order by avg_nota DESC;
--(6)

```

avg_nota	Id_Disciplina
8.360000	109

Figure 5: Query ex 5b

In figure 6 we can observe recursive traversing of the ordered graph

```
--(6)
WITH verts(vertex) AS (
  SELECT 3
  UNION ALL
  SELECT
    vertex - 1 FROM verts
  Where vertex > 0 )
SELECT * FROM verts;
```

100 %

Results Messages

	vertex
1	3
2	2
3	1
4	0

Figure 6: Query ex 6

## Conclusion

During This lab work i find out how to make views and why do i need them in real database. [1]

## References

- [1] SQL Server Management Studio 2017, Tutorials for Lab 8
- [2] MSSQL Official Documentation <https://docs.microsoft.com/en-us/sql/t-sql/language-elements/try-catch-transact-sql?view=sql-server-2017>