

Databases Laboratory Work №4:

“SELECT Transact-SQL”

Prerequisites:

- 1) Chapter one: Instalarea si configurarea MS SQL Server;
 - 2) Chapter two: “Crearea si intretinerea bazei de date”;
 - 3) Chapter three: “Crearea si modificarea tabelor in SQL Server Management Studio”;
 - 4) Chapter four: “SELECT Transact-SQL”
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Objectives:

- 1) Learn basic SQL queries
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Tasks (p.96 book):

- 1) Answer control questions;
 - 2) Solve the practical tasks listed below;
-

query-ex-1.sql - N...-BASSO\Admin (60)) query-ex-18.sql - ...E-BASSO\Admin (65)) query-ex-13.sql - ...E-BASSO\Admin (64))

```
SELECT * FROM grupe
```

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Results Messages

	Id_Grupa	Cod_Grupa	Specialitate	Nume_Facultate
1	1	CIB171	Cibernetica	Informatica si Cibernetica
2	2	INF171	Informatica	Informatica si Cibernetica
3	3	TI171	Tehnologii Informatinale	Informatica si Cibernetica

query-ex-3.sql - N...-BASSO\Admin (61) query-ex-1.sql - N...-BASSO\Admin (60) query-ex-13.sql - N...-BASSO\Admin (64)

```

SELECT DISTINCT
    Disciplina, Nume_Profesor, Prenume_Profesor
FROM
    discipline, profesori, studenti_reusita
WHERE
    studenti_reusita.Id_Disciplina = discipline.Id_Disciplina
    AND
    studenti_reusita.Id_Profesor = profesori.Id_Profesor
ORDER BY
    Nume_Profesor DESC, Prenume_Profesor DESC;

```

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Results Messages

	Disciplina	Nume_Profesor	Prenume_Profesor
1	Practica de productie	Ungureanu	Iulia
2	Asamblare si depanare PC	Popescu	Gabriel
3	Sisteme de calcul	Popescu	Gabriel
4	Sisteme de operare	Popescu	Gabriel
5	Matematica discreta	Oltaru	Andrei
6	Limbeje evaluate de programare (Java, .NET)	Negru	Sergiu
7	Practica de productie	Nechita	Vasile
8	Modelarea sistemelor	Nazarie	Alexandru
9	Informatica aplicata	Munteanu	Alexandru
10	Programarea declarativa	Munteanu	Alexandru
11	Programarea aplicatiilor Windows	Mocanu	Diana
12	Programarea calculatoarelor	Mocanu	Diana
13	Programarea WEB	Mocanu	Diana
14	Practica de productie	Misari	Andrei
15	Programe aplicative	Mircea	Sorin
16	Integrare informationala europeana	Mircea	Maria
17	Baze de date	Micu	Elena

Query executed successfully. NICOLAE-BASSO (14.0 RTM) NICOLAE-BASSO\Admin (61) universitatea 00:00:00 24 rows

query-ex-9.sql - N...-BASSO\Admin (62) query-ex-3.sql - N...-BASSO\Admin (61) query-ex-1.sql - N...-BASSO\Admin (60)

```

SELECT DISTINCT Nume_Student, Adresa_Postala_Student, Id_Disciplina
FROM studenti JOIN studenti_reusita on (studenti.Id_Student = studenti_reusita.Id_Student)
WHERE Nota > 8 AND Data_Evaluare >= '20180101' AND Data_Evaluare <= '20181231'

```

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Results Messages

	Nume_Student	Adresa_Postala_Student	Id_Disciplina	Nota
1	Brasovianu	mun. Chisinau, str. Tighina, 23/3	105	9
2	Brasovianu	mun. Chisinau, str. Tighina, 23/3	113	9
3	Brasovianu	mun. Chisinau, str. Tighina, 23/3	117	10
4	Brasovianu	mun. Chisinau, str. Tighina, 23/3	119	9
5	Coroiet	or. Comrat, str. Lenin, 188	119	9
6	Coroiet	or. Comrat, str. Lenin, 188	120	10
7	Cosovanu	mun. Chisinau, bd. Decebal, 76	108	9
8	Cosovanu	mun. Chisinau, bd. Decebal, 76	113	9
9	Covas	mun. Balti, str. Stefan cel Mare, 6/1	108	10
10	Covas	mun. Balti, str. Stefan cel Mare, 6/1	112	10
11	Covas	mun. Balti, str. Stefan cel Mare, 6/1	118	10
12	Covas	mun. Balti, str. Stefan cel Mare, 6/1	119	9
13	Damian	mun. Chisinau, bd. Traian, 22	105	9
14	Damian	mun. Chisinau, bd. Traian, 22	113	10
15	Damian	mun. Chisinau, bd. Traian, 22	119	9
16	Damian	mun. Chisinau, str. N.Zelinski, 5/5	105	10
17	Damian	mun. Chisinau, str. N.Zelinski, 5/5	108	10

Query executed successfully. NICOLAE-BASSO (14.0 RTM) NICOLAE-BASSO\Admin (62) universitatea 00:00:00 215 rows

query-ex-11.sql - ...E-BASSO\Admin (63)) query-ex-9.sql - N...-BASSO\Admin (62)) query-ex-3.sql - N...-BASSO\Admin (61))

```
SELECT DISTINCT
  Nume_Profesor, Prenume_Profesor
FROM
  profesori JOIN studenti_reusita on (profesori.Id_Profesor = studenti_reusita.Id_Profesor)
  JOIN discipline on (studenti_reusita.Id_Disciplina = discipline.Id_Disciplina)
WHERE
  discipline.Disciplina = 'Baze de date'
  AND
  profesori.Id_profesor = studenti_reusita.Id_Profesor
  AND
  studenti_reusita.Data_Evaluare >= '20180101' AND studenti_reusita.Data_Evaluare <= '20181231'
  AND
  Nota < 5
```

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Results Messages

	Nume_Profesor	Prenume_Profesor
1	Micu	Elena

Query executed successfully. NICOLAE-BASSO (14.0 RTM) NICOLAE-BASSO\Admin (63) universitatea 00:00:00 1 rows

query-ex-11.sql - ...E-BASSO\Admin (63) query-ex-9.sql - N...-BASSO\Admin (62) query-ex-13.sql - ...E-BASSO\Admin (64) X

```
SELECT DISTINCT
    Disciplina
FROM

    discipline JOIN studenti_reusita on (discipline.Id_Disciplina = studenti_reusita.Id_Disciplina)
    JOIN studenti on (studenti_reusita.Id_Student = studenti.Id_Student)
WHERE
    studenti.Nume_Student = 'Florea'
    AND
    studenti.Prenume_Student = 'Ioan'
```

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Results Messages

	Disciplina
1	Asamblare si depanare PC
2	Baze de date
3	Integrare informationala europeana
4	Practica de licenta
5	Practica de productie
6	Programarea calculatoarelor
7	Programarea WEB
8	Programe aplicative
9	Rețele informatice
10	Sisteme de calcul
11	Sisteme de operare
12	Structuri de date si algoritmi
13	Tehnologii de procesare a informatiei

Query executed successfully. NICOLAE-BASSO (14.0 RTM) NICOLAE-BASSO\Admin (64) universitatea 00:00:00 13 rows

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query-ex-11.sql - E-BASSO\Admin (63) query-ex-13.sql - E-BASSO\Admin (64) query-ex-18.sql - E-BASSO\Admin (65)

```
SELECT
    profesori.Nume_Profesor as Nume_Profesor,
    profesori.Prenume_Profesor as Prenume_Profesor
FROM
    profesori JOIN studenti_reusita on (profesori.Id_Profesor = studenti_reusita.Id_Profesor)
    JOIN discipline on (studenti_reusita.Id_Disciplina = discipline.Id_Disciplina)
GROUP BY
    Nume_Profesor, Prenume_Profesor
HAVING
    MAX(discipline.Nr_ore_plan_disciplina) < 60;
```

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Results Messages

	Nume_Profesor	Prenume_Profesor
1	Mircea	Maria
2	Dogar	Alexandru
3	Ilaşcu	Ionela
4	Nazarie	Alexandru
5	Mircea	Sorin
6	Munteanu	Alexandru

Query executed successfully. NICOLAE-BASSO (14.0 RTM) NICOLAE-BASSO\Admin (65) universitatea 00:00:00 6 rows

query-ex-21.sql - ...E-BASSO\Admin (53) query-ex-13.sql - ...E-BASSO\Admin (64) query-ex-18.sql - ...E-BASSO\Admin (65)

```
SELECT s.num_student, s.preume_student, count(sr.nota) nota_totala
FROM studenti AS s,
      studenti_reusita AS sr
WHERE s.id_student = sr.id_student
GROUP BY s.num_student, s.preume_student, sr.id_student
ORDER BY s.num_student, s.preume_student;
```

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Results Messages

	num_student	preume_student	nota_totala
13	Dobrea	Daniela	40
14	Dobrita	Monia	40
15	Dobrovat	Mihai	40
16	Dordai	Ovidiu	40
17	Ene	Mihai	40
18	Farcas	Alina	40
19	Florea	Ioan	52
20	Forgaci	Mihai	40
21	Fratila	Ovidiu	40
22	Gadalean	Gabriela	40
23	Galamboşi	Norbert	50
24	Gheorghescu	Gabriel	40
25	Ghimpu	Eduard	40
26	Ghiran	Andrei	40
27	Ghiurea	Stefan	40
28	Giurca	Sebastian	40
29	Goia	Ariana	40

Query executed successfully. NICOLAE-BASSO (14.0 RTM) NICOLAE-BASSO\Admin (53) universitatea 00:00:00 75 rows


```
query-ex-25.sql -...E-BASSO\Admin (52))  query-ex-21.sql -...E-BASSO\Admin (53))  query-ex-18.sql -...E-BASSO\Admin (65))
SELECT Cod_Grupa, Count(DISTINCT s.Id_Student) Total_Students
FROM dbo.studenti_reusita sr
JOIN dbo.studenti s ON (sr.Id_Student = s.Id_Student)
JOIN dbo.grupe g ON (sr.Id_Grupa = g.Id_Grupa)
GROUP BY Cod_Grupa
HAVING COUNT(DISTINCT s.Id_Student) > 24;
```

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Connected. (1/1) NICOLAE-BASSO (14.0 RTM) NICOLAE-BASSO\Admin (52) master 00:00:00 0 rows

query-ex-26.sql - ...E-BASSO\Admin (S1) query-ex-25.sql - ...E-BASSO\Admin (S2) query-ex-21.sql - ...E-BASSO\Admin (S3)

```
SELECT Nume_Student, Prenume_Student, Adresa_Postala_Student
FROM studenti s
JOIN studenti_reusita sr ON (s.id_student = sr.id_student)
JOIN profesori p ON (sr.id_profesor = p.id_profesor)
GROUP BY s.Nume_Student, s.Prenume_Student, s.Adresa_Postala_Student
HAVING Adresa_Postala_Student LIKE('%str.31 August%');

GO

SELECT Nume_Profesor, Prenume_Profesor, Adresa_Postala_Profesor
FROM studenti_reusita sr
JOIN profesori p ON (sr.id_profesor = p.id_profesor)
GROUP BY p.Nume_Profesor, p.Prenume_Profesor, p.Adresa_Postala_Profesor
HAVING Adresa_Postala_Profesor LIKE('%str.31 August%');
```

110 %

Results Messages

	Nume_Student	Prenume_Student	Adresa_Postala_Student
1	Dascal	Florina	or. Drochia, str.31 August, 33
2	Pop	Irina	or. Florești, str.31 August, 59

Nume_Profesor	Prenume_Profesor	Adresa_Postala_Profesor
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Query executed successfully. NICOLAE-BASSO (14.0 RTM) NICOLAE-BASSO\Admin (S1) universitatea 00:00:00 2 rows

query-ex-26.sql - ...E-BASSO\Admin (51) query-ex-25.sql - ...E-BASSO\Admin (52) query-ex-32.sql - ...E-BASSO\Admin (56)

```

SELECT s.id_student, s.num Student, s.prenume Student, g.cod_grupa, AVG(sr.nota) media
FROM studenti s
JOIN studenti_reusita sr ON (s.id_student = sr.id_student)
JOIN grupe g ON (sr.id_grupa = g.id_grupa)
WHERE s.id_student = sr.id_student
GROUP BY s.id_student, s.num Student, s.prenume Student, sr.id_student, g.cod_grupa
ORDER BY g.cod_grupa, s.num Student, s.prenume Student;

```

110 %

Results Messages

	id_student	num Student	prenume Student	cod_grupa	media
1	100	Brasovianu	Teodora	CIB171	7
2	101	Cotovanu	Geanina	CIB171	5
3	102	Coste	Claudia	CIB171	5
4	104	Damian	Adina	CIB171	7
5	103	Damian	Roxana	CIB171	7
6	105	Dan	David	CIB171	7
7	106	Danci	Larisa	CIB171	7
8	108	Demian	Bogdan	CIB171	6
9	107	Disconu	Samuel	CIB171	7
10	109	Dobrea	Daniela	CIB171	6
11	110	Dobrita	Maria	CIB171	7
12	111	Dobrovat	Mihai	CIB171	6
13	112	Dordei	Ovidiu	CIB171	6
14	113	Ene	Mihai	CIB171	6
15	114	Farcas	Alina	CIB171	6
16	115	Forgaci	Mihai	CIB171	7
17	116	Fratila	Ovidiu	CIB171	7

Query executed successfully. NICOLAE-BASSO (14.0 RTM) NICOLAE-BASSO\Admin (56) universitatea 00:00:00 75 rows

Conclusion:

In this laboratory work I learned how to make basic SQL queries using SELECT, FROM, WHERE, GROUP BY, ORDER BY, HAVING, aggregate functions, arithmetic & logic operations.