

Учреждение образования
«БЕЛОРУССКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
ИНФОРМАТИКИ И РАДИОЭЛЕКТРОНИКИ»
Кафедра информатики

Отчет по лабораторной работе №4

Проектирование DML запросов SQL

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Минск 2021

Цель работы

Получить практические навыки построения баз данных с помощьюdialectа DDL языка SQL.

Задача

Разработка SQL запросов схемы базы данных. Целью лабораторной работы является подготовка набора скриптов, выполняющих следующие задачи:

1. Добавить факультеты KSIS, FITU

```
-- ADD some faculties
INSERT INTO Faculty(ID, NAME)
VALUES
....(NEWID(), 'KSIS'),
....(NEWID(), 'FITU');
```

2. Добавить новую группу с номером 123456

```
-- Insert some groups
INSERT INTO GROUPS(ID, NAME, HEAD_GROUP, FACULTY_ID)
VALUES
....(NEWID(), '123456', NULL, (SELECT ID FROM Faculty WHERE NAME='KSIS'));
```

3. Внести в группу 123456 студентов Ivanov, Petrov

```
-- Insert some students
INSERT INTO Students(ID, LAST_NAME, GROUP_ID)
VALUES
....(NEWID(), 'Ivanov', (SELECT ID FROM GROUPS WHERE NAME='123456')),
....(NEWID(), 'Petrov', (SELECT ID FROM GROUPS WHERE NAME='123456')),
```

4. Назначить студента Ivanov старостой группы

```
-- Insert Head of group
UPDATE GROUPS
SET HEAD_GROUP = (SELECT ID FROM Students WHERE LAST_NAME='Ivanov')
WHERE NAME='123456';
```

5. Добавить преподавателей Vasechkin и Petechkin на факультеты KSIS, FITU соответственно

```
-- Insert some prepods
INSERT INTO Prepods(ID, LAST_NAME, FACULTY_ID)
VALUES
| (NEWID(), 'Vasechkin', (SELECT ID FROM Faculty WHERE NAME='KSIS')),
| (NEWID(), 'Petechkin', (SELECT ID FROM Faculty WHERE NAME='FITU'));
```

6. Назначить преподавателю Vasechkin ведение предмета «Introduction to speciality» для группы 123456. Проверить планы выполнения запроса Actual и Eastimated (в отчёт о ЛР добавить снимки экрана)

```
-- Insert some subjects
INSERT INTO Subjects(ID, NAME, FACULTY_ID)
VALUES
| (NEWID(), 'Introduction to speciality', (SELECT FACULTY_ID
| FROM GROUPS
| WHERE NAME='123456')),
```

```

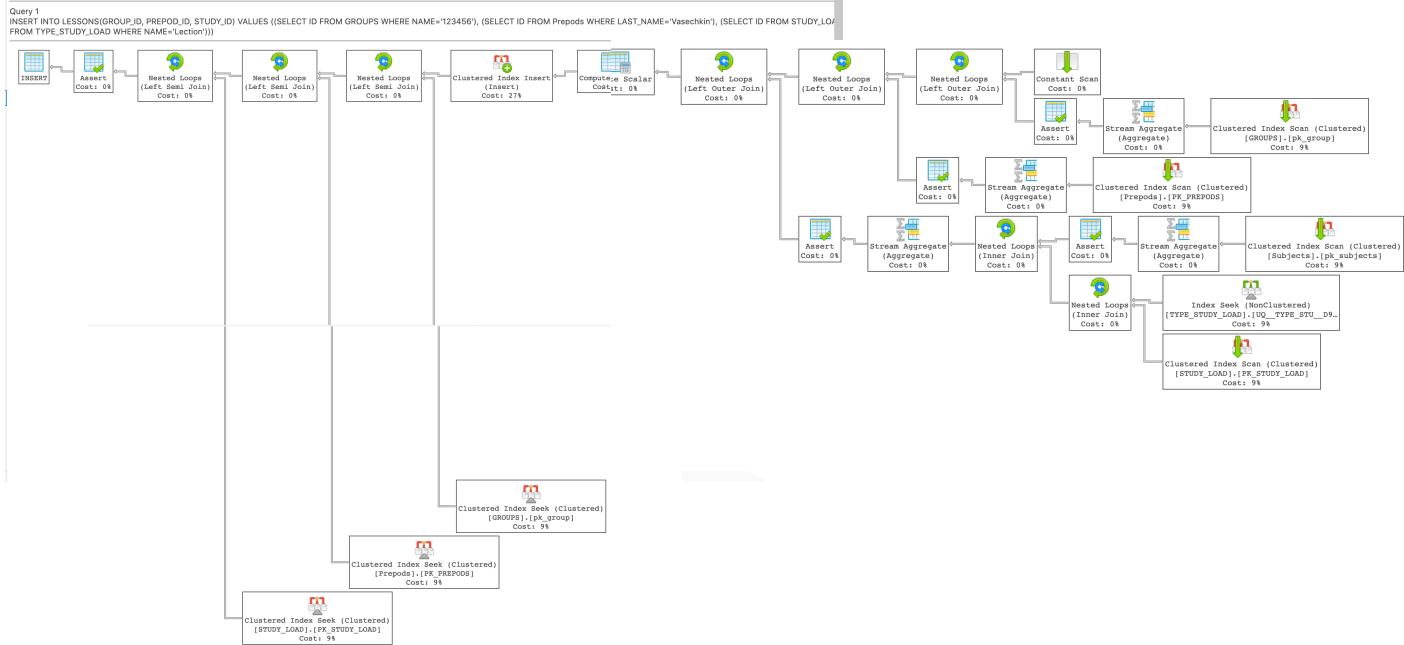
-- Insert some type study load
INSERT INTO TYPE_STUDY_LOAD(ID, NAME)
VALUES
    (NEWID(), 'Lecture'),
    (NEWID(), 'Practice'),
    (NEWID(), 'Lab');

-- Insert study load amount
INSERT INTO STUDY_LOAD(ID, hours, SUBJECT_ID, Type_STUDY_ID)
VALUES
    ('INTRO',
    2,
    (SELECT ID FROM Subjects WHERE NAME='Introduction to speciality'),
    (SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lecture')),

-- Insert some lessons for group and prepd
INSERT INTO LESSONS(GROUP_ID, PREPOD_ID, STUDY_ID)
VALUES
    ((SELECT ID FROM GROUPS WHERE NAME='123456'),
    (SELECT ID FROM Prepods WHERE LAST_NAME='Vasechkin'),
    (SELECT ID FROM STUDY_LOAD WHERE SUBJECT_ID = (SELECT ID
        FROM Subjects
        WHERE NAME='Introduction to speciality')
        AND Type_STUDY_ID=(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lecture'))),

```

Планы выполнения запроса Estimated и Actual:



Top Operations														
Operation	Object	Est Cost	Est Subtre...	Actual Rows	Est Rows	Actual Exec...	Est CPU C...	Est IO Cost	Parallel	Actual Reb...	Est Rebinds	Actual Re...	Est Rewinds	Partitioned
Clustered Index...	[BSUIR_TER...	27	0.0265046	1	1	1	1e-06	0.01	false	0	0	0	0	false
Clustered Index...	[BSUIR_TER...	9	0.0032831	1	1	1	0.0001581	0.003125	false	0	0	0	0	false
Clustered Index...	[BSUIR_TER...	9	0.0032831	1	1	1	0.0001581	0.003125	false	0	0	0	0	false
Clustered Index...	[BSUIR_TER...	9	0.0032831	1	1	1	0.0001581	0.003125	false	0	0	0	0	false
Clustered Index...	[BSUIR_TER...	9	0.0032831	1	1	1	0.0001581	0.003125	false	0	0	0	0	false
Clustered Index...	[BSUIR_TER...	9	0.0032875	1	1	1	0.0001625	0.003125	false	0	0	0	0	false
Clustered Index...	[BSUIR_TER...	9	0.0032864	1	1	1	0.0001614	0.003125	false	0	0	0	0	false
Index Seek	[BSUIR_TER...	9	0.0032831	1	1	1	0.0001581	0.003125	false	0	0	0	0	false
Clustered Index...	[BSUIR_TER...	9	0.0032908	8	8	1	0.0001658	0.003125	false	0	0	0	0	false
Assert	0	0.0363673	1	1	1	1	8.8e-07	0	false	0	0	0	0	false
Nested Loops(...)	0	0.0363664	1	1	1	1	4.18e-06	0	false	0	0	0	0	false
Nested Loops(...)	0	0.0330792	1	1	1	1	4.18e-06	0	false	0	0	0	0	false
Nested Loops(...)	0	0.0297919	1	1	1	1	4.18e-06	0	false	0	0	0	0	false
Compute Scalar	0	0.0165036	1	1	1	1	1e-07	0	false	0	0	0	0	false
Nested Loops(...)	0	0.0165035	1	1	1	1	4.18e-06	0	false	0	0	0	0	false
Nested Loops(...)	0	0.00658616	1	1	1	1	4.18e-06	0	false	0	0	0	0	false
Assert	0	0.00991317	1	1	1	1	4.8e-07	0	false	0	0	0	0	false
Nested Loops(...)	0	0.0032905	1	1	1	1	4.18e-06	0	false	0	0	0	0	false
Assert	0	0.00329148	1	1	1	1	4.8e-07	0	false	0	0	0	0	false
Constant Scan	0	0.000001157	1	1	1	1	1.157e-06	0	false	0	0	0	0	false
Assert	0	0.00328516	1	1	1	1	4.8e-07	0	false	0	0	0	0	false
Stream Aggre...	0	0.00328468	1	1	1	1	1.1e-06	0	false	0	0	0	0	false
Stream Aggre...	0	0.003291	1	1	1	1	1.1e-06	0	false	0	0	0	0	false
Stream Aggre...	0	0.00991269	1	1	1	1	1.1e-06	0	false	0	0	0	0	false
Nested Loops(...)	0	0.00991159	1	1	1	1	1.11467e-05	0	false	0	0	0	0	false

7. Поставить Студенту Иванову по предмету «Введение в специальность» оценку 10, отметить отсутствие студента Петрова на данном занятии

```
-- Insert some marks for students
INSERT INTO RATING(ID, DATE, VAL, STUDENT_ID, STUDY_ID, PREPODS_ID, IS_ABSENT)
VALUES
    (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Ivanov'),
    'INTRO', (SELECT ID FROM Prepods WHERE LAST_NAME='Vasechkin'), 'N')
```

8. Наполнить базу таким образом, чтобы в базе появилась информация по различным предметам (минимум 4), по каждому из которых стояло бы не менее 3 отметок(минимум 5 студентам). По как минимум двум запросам вывести статистику выполнения;

```
-- Insert some prepods
INSERT INTO Prepods(ID, LAST_NAME, FACULTY_ID)
VALUES
    (NEWID(), 'Vasechkin', (SELECT ID FROM Faculty WHERE NAME='KSIS')),
    (NEWID(), 'Tesluk', (SELECT ID FROM Faculty WHERE NAME='KSIS')),
    (NEWID(), 'Butoma', (SELECT ID FROM Faculty WHERE NAME='KSIS')),
    (NEWID(), 'Volorova', (SELECT ID FROM Faculty WHERE NAME='KSIS')),
    (NEWID(), 'Peteckhin', (SELECT ID FROM Faculty WHERE NAME='FITU'));
```

```
-- Insert some type study load
INSERT INTO TYPE_STUDY_LOAD(ID, NAME)
VALUES
....(NEWID(), 'Lection'),
....(NEWID(), 'Practice'),
....(NEWID(), 'Lab');

-- Insert study load amount
INSERT INTO STUDY_LOAD(ID, hours, SUBJECT_ID, Type_STUDY_ID)
VALUES
....('INTRO',
2,
(SELECT ID FROM Subjects WHERE NAME='Introduction to speciality'),
(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lection')),

....('HighMath_LK',
40,
(SELECT ID FROM Subjects WHERE NAME='High Math And Analysis'),
(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lection')),

....('HighMath_Practice',
40,
(SELECT ID FROM Subjects WHERE NAME='High Math And Analysis'),
(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Practice')),

....('Python_LK',
60,
(SELECT ID FROM Subjects WHERE NAME='Python and its applications'),
(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lection')),

....('Python_Lab',
60,
(SELECT ID FROM Subjects WHERE NAME='Python and its applications'),
(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lab')),

....('DS_ML_LK',
80,
(SELECT ID FROM Subjects WHERE NAME='DataScience and Machine Learning'),
(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lection')),

....('DS_ML_Practice',
80,
(SELECT ID FROM Subjects WHERE NAME='DataScience and Machine Learning'),
(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Practice')),
```

```

-- Insert some lessons for group and prepod
INSERT INTO LESSONS(GROUP_ID, PREPOD_ID, STUDY_ID)
VALUES
((SELECT ID FROM GROUPS WHERE NAME='123456'),
 (SELECT ID FROM Prepods WHERE LAST_NAME='Vasechkin'),
 (SELECT ID FROM STUDY_LOAD WHERE SUBJECT_ID = (SELECT ID
                                              FROM Subjects
                                              WHERE NAME='Introduction to speciality')
                                         AND Type_STUDY_ID=(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lection'))),

((SELECT ID FROM GROUPS WHERE NAME='123456'),
 (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'),
 (SELECT ID FROM STUDY_LOAD WHERE SUBJECT_ID = (SELECT ID
                                              FROM Subjects
                                              WHERE NAME='High Math And Analysis')
                                         AND Type_STUDY_ID=(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lection'))),

((SELECT ID FROM GROUPS WHERE NAME='123456'),
 (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'),
 (SELECT ID FROM STUDY_LOAD WHERE SUBJECT_ID = (SELECT ID
                                              FROM Subjects
                                              WHERE NAME='High Math And Analysis')
                                         AND Type_STUDY_ID=(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Practice'))),

((SELECT ID FROM GROUPS WHERE NAME='123456'),
 (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'),
 (SELECT ID FROM STUDY_LOAD WHERE SUBJECT_ID = (SELECT ID
                                              FROM Subjects
                                              WHERE NAME='Python and it applications')
                                         AND Type_STUDY_ID=(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lection'))),

((SELECT ID FROM GROUPS WHERE NAME='123456'),
 (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'),
 (SELECT ID FROM STUDY_LOAD WHERE SUBJECT_ID = (SELECT ID
                                              FROM Subjects
                                              WHERE NAME='Python and it applications')
                                         AND Type_STUDY_ID=(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lab'))),

```

```

((SELECT ID FROM GROUPS WHERE NAME='123456'),
 (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'),
 (SELECT ID FROM STUDY_LOAD WHERE SUBJECT_ID = (SELECT ID
                                              FROM Subjects
                                              WHERE NAME='DataScience and Machine Learning')
                                         AND Type_STUDY_ID=(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lection'))),

((SELECT ID FROM GROUPS WHERE NAME='123456'),
 (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'),
 (SELECT ID FROM STUDY_LOAD WHERE SUBJECT_ID = (SELECT ID
                                              FROM Subjects
                                              WHERE NAME='DataScience and Machine Learning')
                                         AND Type_STUDY_ID=(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Practice'))),

((SELECT ID FROM GROUPS WHERE NAME='123456'),
 (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'),
 (SELECT ID FROM STUDY_LOAD WHERE SUBJECT_ID = (SELECT ID
                                              FROM Subjects
                                              WHERE NAME='DataScience and Machine Learning')
                                         AND Type_STUDY_ID=(SELECT ID FROM TYPE_STUDY_LOAD WHERE NAME='Lab')));

```

```
-- Insert some marks for students
INSERT INTO RATING(ID, DATE, VAL, STUDENT_ID, STUDY_ID, PREPODS_ID, IS_ABSENT)
VALUES
-- (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Ivanov'),
-- 'INTRO', (SELECT ID FROM Prepods WHERE LAST_NAME='Vasechkin'), 'N'),

-- (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Kremenevskiy'),
-- 'HighMath_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'), 'N'),

-- (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Kremenevskiy'),
-- 'HighMath_Practice', (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'), 'N'),

-- (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Kremenevskiy'),
-- 'Python_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'), 'N'),

-- (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Kremenevskiy'),
-- 'Python_Lab', (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'), 'N'),

-- (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Kremenevskiy'),
-- 'DS_ML_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'), 'N'),

-- (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Kremenevskiy'),
-- 'DS_ML_Practice', (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'), 'N'),

-- (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Kremenevskiy'),
-- 'DS_ML_Lab', (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'), 'N'),

-- (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Kremenevskiy'),
-- 'DS_ML_Lab', (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'), 'N'),

-- (NEWID(), GETDATE(), 8, (SELECT ID FROM Students WHERE LAST_NAME='Kukareko'),
-- 'Python_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'), 'N'),

-- (NEWID(), GETDATE(), 6, (SELECT ID FROM Students WHERE LAST_NAME='Kukareko'),
-- 'DS_ML_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'), 'N'),
```

```
(NEWID(), GETDATE(), 9, (SELECT ID FROM Students WHERE LAST_NAME='Kukareko'),  
'Python_Lab', (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'), 'N'),  
  
(NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Kukareko'),  
'HighMath_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'), 'N'),  
  
(NEWID(), GETDATE(), 4, (SELECT ID FROM Students WHERE LAST_NAME='Kukareko'),  
'HighMath_Practice', (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'), 'N'),  
  
(NEWID(), GETDATE(), 9, (SELECT ID FROM Students WHERE LAST_NAME='Ivanchuk'),  
'Python_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'), 'N'),  
  
(NEWID(), GETDATE(), 8, (SELECT ID FROM Students WHERE LAST_NAME='Ivanchuk'),  
'DS_ML_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'), 'N'),  
  
(NEWID(), GETDATE(), 7, (SELECT ID FROM Students WHERE LAST_NAME='Ivanchuk'),  
'DS_ML_Practice', (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'), 'N'),  
  
(NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Ivanchuk'),  
'Python_Lab', (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'), 'N'),  
  
(NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Ivanchuk'),  
'HighMath_Practice', (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'), 'N'),  
  
(NEWID(), GETDATE(), 7, (SELECT ID FROM Students WHERE LAST_NAME='Voiteshonok'),  
'Python_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'), 'N'),  
  
(NEWID(), GETDATE(), 8, (SELECT ID FROM Students WHERE LAST_NAME='Voiteshonok'),  
'Python_Lab', (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'), 'N'),  
  
(NEWID(), GETDATE(), 5, (SELECT ID FROM Students WHERE LAST_NAME='Voiteshonok'),  
'HighMath_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'), 'N'),  
  
(NEWID(), GETDATE(), 9, (SELECT ID FROM Students WHERE LAST_NAME='Voiteshonok'),  
'Python_Lab', (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'), 'N'),  
  
· (NEWID(), GETDATE(), 9, (SELECT ID FROM Students WHERE LAST_NAME='Voiteshonok'),  
· 'Python_Lab', (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'), 'N'),  
  
· (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Voiteshonok'),  
· 'HighMath_Practice', (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'), 'N'),  
  
· (NEWID(), GETDATE(), 4, (SELECT ID FROM Students WHERE LAST_NAME='Ermakov'),  
· 'DS_ML_Practice', (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'), 'N'),  
  
· (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Ermakov'),  
· 'HighMath_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'), 'N'),  
  
· (NEWID(), GETDATE(), 9, (SELECT ID FROM Students WHERE LAST_NAME='Ermakov'),  
· 'DS_ML_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Volorova'), 'N'),  
  
· (NEWID(), GETDATE(), 6, (SELECT ID FROM Students WHERE LAST_NAME='Ermakov'),  
· 'Python_Lab', (SELECT ID FROM Prepods WHERE LAST_NAME='Butoma'), 'N'),  
  
· (NEWID(), GETDATE(), 10, (SELECT ID FROM Students WHERE LAST_NAME='Ermakov'),  
· 'HighMath_Practice', (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'), 'N'),  
  
· (NEWID(), GETDATE(), 8, (SELECT ID FROM Students WHERE LAST_NAME='Ermakov'),  
· 'HighMath_LK', (SELECT ID FROM Prepods WHERE LAST_NAME='Tesluk'), 'N');
```

Демонстрация:

```
4  SELECT *
5  FROM STUDENTS;
```

Results Messages

	ID	LAS...	FIRST_NAME	GROUP_ID
1	73c69727-1126-472c-b534-0...	Ermakov	NULL	3dab84c2-c75a...
2	1668e1e0-e6bd-4402-832d-2...	Ivanov	NULL	3dab84c2-c75a...
3	4932f922-7016-4f29-be69-3...	Kukare...	NULL	3dab84c2-c75a...
4	22b28acb-d009-4875-8a5e-7...	Petrov	NULL	3dab84c2-c75a...
5	bcb8d1cf-2fc4-4089-8b4b-8...	Kremen...	NULL	3dab84c2-c75a...
6	79935e53-927d-4adc-b796-8...	Ivanch...	NULL	3dab84c2-c75a...
7	44c8cc89-43fc-45c4-8ab0-c...	Voites...	NULL	3dab84c2-c75a...

Демонстрация успешного добавления старосты группы студента Ivanov

```
5  SELECT *
6  FROM GROUPS;
7
```

Results Messages

	ID	NAME	HEAD_GROUP	FACULTY_ID
1	e28208ea-e46a-420c-b92f-8...	123456	d0f2a8fd-aae6-44d2-b26c-b...	cc5b8a2c-5eb0-40f4-8fa8-d...

Демонстрация уроков:

```
7   SELECT *
8     FROM LESSONS;
```

Results Messages

	GROUP_ID	PREPOD_ID	STUDY_ID
1	3dab84c2-c75a-4883-8246-8...	5235b1fb-2c98-4490-988f-6...	Python_Lab
2	3dab84c2-c75a-4883-8246-8...	5235b1fb-2c98-4490-988f-6...	Python_LK
3	3dab84c2-c75a-4883-8246-8...	f5616006-289d-4aa6-a295-6...	INTRO
4	3dab84c2-c75a-4883-8246-8...	2b7b0ad8-e463-4269-b859-8...	DS_ML_Lab
5	3dab84c2-c75a-4883-8246-8...	2b7b0ad8-e463-4269-b859-8...	DS_ML_LK
6	3dab84c2-c75a-4883-8246-8...	2b7b0ad8-e463-4269-b859-8...	DS_ML_Practice
7	3dab84c2-c75a-4883-8246-8...	fc3b2f58-2e10-4048-ac5b-a...	HighMath_LK
8	3dab84c2-c75a-4883-8246-8...	fc3b2f58-2e10-4048-ac5b-a...	HighMath_Practice

Демонстрация журнала:

```
15 FROM RATING
16 WHERE STUDY_ID = 'Python_LK'
17 UNION
18 SELECT STUDY_ID, VAL, DATE, STUDENT_ID, IS_ABSENT, PREPODS_ID
19 FROM RATING
20 WHERE STUDY_ID = 'DS_ML_LK'
21 UNION
22 SELECT STUDY_ID, VAL, DATE, STUDENT_ID, IS_ABSENT, PREPODS_ID
23 FROM RATING
24 WHERE STUDY_ID = 'DS_ML_Practice'
25 UNION
26 SELECT STUDY_ID, VAL, DATE, STUDENT_ID, IS_ABSENT, PREPODS_ID
27 FROM RATING
28 WHERE STUDY_ID = 'DS_ML_Lab'
29 ORDER BY STUDY_ID ASC;
```

Results Messages

	STUDY_ID	VAL	DATE	STUDENT_ID	IS_ABSENT	PREPODS_ID
1	DS_ML_Lab	10	2021-11-12	bcb8d1cf-2fc4-4089-8b4b-8...	N	2b7b0ad8-e463-4269-b859-8...
2	DS_ML_LK	6	2021-11-12	4932f922-7016-4f29-be69-3...	N	2b7b0ad8-e463-4269-b859-8...
3	DS_ML_LK	8	2021-11-12	79935e53-927d-4adc-b796-8...	N	2b7b0ad8-e463-4269-b859-8...
4	DS_ML_LK	9	2021-11-12	73c69727-1126-472c-b534-0...	N	2b7b0ad8-e463-4269-b859-8...
5	DS_ML_LK	10	2021-11-12	bcb8d1cf-2fc4-4089-8b4b-8...	N	2b7b0ad8-e463-4269-b859-8...
6	DS_ML_Practice	4	2021-11-12	73c69727-1126-472c-b534-0...	N	2b7b0ad8-e463-4269-b859-8...
7	DS_ML_Practice	7	2021-11-12	79935e53-927d-4adc-b796-8...	N	2b7b0ad8-e463-4269-b859-8...
8	DS_ML_Practice	10	2021-11-12	bcb8d1cf-2fc4-4089-8b4b-8...	N	2b7b0ad8-e463-4269-b859-8...
9	Python_Lab	6	2021-11-12	73c69727-1126-472c-b534-0...	N	5235b1fb-2c98-4490-988f-6...
10	Python_Lab	8	2021-11-12	44c8cc89-43fc-45c4-8ab0-c...	N	5235b1fb-2c98-4490-988f-6...
11	Python_Lab	9	2021-11-12	4932f922-7016-4f29-be69-3...	N	5235b1fb-2c98-4490-988f-6...
12	Python_Lab	9	2021-11-12	44c8cc89-43fc-45c4-8ab0-c...	N	5235b1fb-2c98-4490-988f-6...
13	Python_Lab	10	2021-11-12	bcb8d1cf-2fc4-4089-8b4b-8...	N	5235b1fb-2c98-4490-988f-6...
14	Python_Lab	10	2021-11-12	79935e53-927d-4adc-b796-8...	N	5235b1fb-2c98-4490-988f-6...
15	Python_LK	7	2021-11-12	44c8cc89-43fc-45c4-8ab0-c...	N	5235b1fb-2c98-4490-988f-6...
16	Python_LK	8	2021-11-12	4932f922-7016-4f29-be69-3...	N	5235b1fb-2c98-4490-988f-6...
17	Python_LK	9	2021-11-12	79935e53-927d-4adc-b796-8...	N	5235b1fb-2c98-4490-988f-6...
18	Python_LK	10	2021-11-12	bcb8d1cf-2fc4-4089-8b4b-8...	N	5235b1fb-2c98-4490-988f-6...

9. Добавить в БД произвольную файловую группу. Добавить .ndf файл

```
-- Adding file system to database
ALTER DATABASE BSUIR_TERM_5
ADD FILEGROUP fileGroup
GO

ALTER DATABASE BSUIR_TERM_5
ADD FILE
(
    NAME = testfile,
    FILENAME = '/Users/kremenevskiy/testfile.ndf',
    SIZE = 5MB,
    MAXSIZE = 100MB,
    FILEGROWTH = 5MB
)
TO FILEGROUP fileGroup
GO
```

10. Очистить БД от внесённых данных

```
-- deleting all rows from all
DELETE FROM Faculty;
DELETE FROM TYPE_STUDY_LOAD;
DELETE FROM Subjects;
DELETE FROM STUDY_LOAD;
DELETE FROM Prepods;
DELETE FROM GROUPS;
DELETE FROM LESSONS;
DELETE FROM Students;
DELETE FROM RATING;
```

Проверка удаления

```
-- check if all tables deleted
SELECT COUNT(ID) as count
FROM Faculty
UNION
SELECT COUNT(ID) as count
FROM TYPE_STUDY_LOAD
UNION
SELECT COUNT(ID) as count
FROM Subjects
UNION
SELECT COUNT(ID) as count
FROM STUDY_LOAD
UNION
SELECT COUNT(ID) as count
FROM Prepods
UNION
SELECT COUNT(ID) as count
FROM GROUPS
UNION
SELECT COUNT(GROUP_ID) as count
FROM LESSONS
UNION
SELECT COUNT(ID) as count
FROM Students
UNION
SELECT COUNT(ID) as count
FROM RATING;
```

```
323  FROM STUDENTS
324  UNION
325  SELECT COUNT(ID) as count
326  FROM RATING;
327
```

Results Messages

	count	▼
1	0	