МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ

ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ АВТОНОМНОЕ ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ

Национальный исследовательский ядерный университет «МИФИ»

Институт интеллектуальных кибернетических систем

Кафедра кибернетики (№ 22)

Направление подготовки 09.04.04 Программная инженерия

Лабораторная работа на тему

«Нормализация: контрольная по курсу лекций» по дисциплине «Проектирование баз данных кибернетических систем»

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Группа: М20-504

На входе документ «Контрольная по курсу лекций».

Строка шапки:

A1	нB	Номер ведомости
A2	Жен	Название курса лекций
A3	идК	Идентификатор курса лекций
A4	н Г	Номер группы
A5	фиоП	ФИО преподавателя по курсу лекций
A6	нП.Ч	Табельный номер преподавателя
A7	ДT	Дата контрольной

Детальные строки:

	TIBLE CIPCI	
A8	фиоС	ФИО студента
A9	н3	Номер зачетки
A10	еЩ	Оценка
A11	фиоП	Фио преподавателя,
/\ 11	фиотт	проверяющего контрольную
		Табельный номер
		преподавателя, проверяющего
A12	н∏.∏	контрольную

1. Зафиксировать функциональные связи атрибутов

Приводим эту структуру к 1НФ:

R0(A1,A2,A3,A4, A5,A6,A7, A8.A9,A10,A11,A12)

 $A1,A9 \rightarrow A2,A3,A4,A5,A6,A7,A8.A10,A11,A12$

Выделяем, что зависит от части ключа. Получаем отношения в 2NF

 $A1 \rightarrow A2, A3, A4, A5, A6, A7$

 $A9 \rightarrow A8$

 $A1,A9 \rightarrow A10,A11,A12$

Удаляем связи между неосновными атрибутами

R1(A1,A2,A3,A4,A5,A6,A7)

 $A3 \rightarrow A2$

 $A6 \rightarrow A5$

 $A9 \rightarrow A8$

R3(A1,A9,A10,A11,A12)

 $A12 \rightarrow A11$

Получаем отношения в 3NF

R11(A1,A3,A4,A6,A7)	Кр(пВ, идК, пГ, пП.Ч, дт)
R12(A2,A3)	Курс(нэК, идК)
R13(A5,A6)	Преп(фиоП, нП.Ч)

R2(A9,A8)	Студ(фиоС, нЗ)
R31(A1,A9,A10,A12)	Оц(иВ, иЗ, оЦ, иП.П)
R32(A11,A12)	ПрепПр(фиоП, пП.П)

2.1. Создать ненормализованную таблицу «Контрольные» с помощью INSERT. Каждая запись – один документ «Контрольная по курсу лекций»

```
CREATE TABLE public.nenormalizirovannaya
           nomer_vedomosti integer NOT NULL DEFAULT nextval('nenormalizirovannaya_nomer_vedomosti_seq'::regclass),
           nazvanie_kursa_lekciy character varying(100) COLLATE pg_catalog."default" NOT NULL,
           identifikator_kursa_lekciy integer NOT NULL,
           nomer_gruppi character varying(10) COLLATE pg_catalog."default" NOT NULL,
           \verb|fio_prepodavatelya| character varying (150) | COLLATE | \verb|pg_catalog."| default" | NOT | NULL, | Collaboration | NULL | NOT | NULL, | Collaboration | NULL | NOT | NULL, | NULL | NU
           tabelniy_nomer_prepodavatelya integer NOT NULL,
           data_kr date NOT NULL,
           svod ison.
            CONSTRAINT nenormalizirovannaya_pkey PRIMARY KEY (nomer_vedomosti)
TABLESPACE pg_default;
ALTER TABLE public.nenormalizirovannaya
           OWNER to postgres;
  create table unnormalize (
         "message number" SERIAL NOT null PRIMARY key,
       "название coursea лекций" varchar(100) NOT NULL,
      "lecture course identifier" int4 NOT NULL,
"group number" varchar(10) NOT NULL,
"teacher name" varchar(150) NOT NULL,
        "teacher name number" int4 NOT NULL,
         "date cr" date NOT NULL,
        "summary" json
```

Далее в таблице снизу будет показан пример заполнения данных на примере двух групп и двух предметов, остальная часть базы данных представлена в приложении 1.

```
insert into unnormalize (
  "message number", "название coursea лекций",
 "lecture course identifier", "group number'
 "teacher_name", "teacher_name_number",
  "date cr", "summary"
values
    112, 'Методология программной инженерии',
    3141, 'M20-514', 'Иващенко М.Г.',
   0, '2021-11-28', '[ {"student name":"Бильбо
Б", "student number": "m2051403", "grade": "3", "teacher name": "Иващенко
<u>М.Г.","teacher_book_number":0}, {"student_name":"Фродо</u>
    ,"student number":"m2050404","grade":"3","teacher name":"Иващенко
M.Г.", "teacher book number":0}, { "student name": "Роки
Б","student number":"m2051405","grade":"3","teacher name":"Иващенко
M.Γ.", "teacher book number":0}, {"student name": "Бебра
H.", "student number": "m2051413", "grade": "2", "teacher name": "Никифоров
A.W.", "teacher_book_number":1} ]'
insert into unnormalize (
  "message_number", "название_coursea_лекций",
  "lecture course identifier", "group number",
 "teacher name", "teacher name number",
 "date cr", "summary"
values
__(
    100, 'Взаимосвязь открытых систем',
    11092001, 'М20-504', 'Никифоров А.Ю.
   1, '2021-10-23', '[ {"student name":"Стетхем
Д.", "student number": "m2051406", "grade": "5", "teacher name": "Никифоров
A.Ю.","teacher book number":1}, {"student name":"Сталоне
C.", "student number": "m2051407", "grade": "4", "teacher name": "Никифоров A.Ю.", "teacher book number": 1}, {"student name": "Гришин И.", "student number": "m2051408", "grade": "3", "teacher name": "Никифоров
A.O.", "teacher_book_number":1} ]'
insert into unnormalize (
  "message number", "название coursea лекций",
  "lecture course identifier", "group number"
  "teacher name", "teacher name number",
  "date cr", "summary"
values
 (
    101, 'Взаимосвязь открытых систем',
 11092001, 'М20-504', 'Никифоров А.Ю.'
    1, '2021-11-20', '[ {"student name":"Трейсер
0.","student number":"m2050409","grade":"4","teacher name":"Никифоров
      ,"teacher book number":1}, {"student name":"Ветрокрылая
C.", "student number": "m2050410", "grade": "5", "teacher name": "Никифоров
A.Ю.", "teacher_book_number":1}, {"student_name":"Додонов
Додон", "student number": "m2050401", "grade": "3", "teacher name": "Никифоров
    .","teacher book number":1}, {"student name":"Лц
,"student number":"m2050411","grade":"2","teacher name":"Никифоров
A.W.", "teacher book number":1} ]'
```

```
<del>insert into nenormalizirovannava (</del>
values
Д.Э.","nomer zachetki":"m2050412","ocenka":"2","fio prepodavatelya":"Никифоров
A.H.", "nomer tabelya prepodavatelya": 5},
<del>9.T.","nomer zachetki":"m2050417","ocenka":"3","fio prepodavatelva":"Никифоров</del>
A.H.", "nomer tabelya prepodavatelya": 5},
Д.", "nomer zachetki": "m2050411", "ocenka": "4", "fio prepodavatelya": "Никифоров
A.W.", "nomer tabelya prepodavatelya": 5},
A.W.", "nomer tabelya prepodavatelya": 5},
<del>Б.А.","nomer zachetki":"m2050415","ocenka":"5","fio prepodavatelya":"Никифоров</del>
A.H.", "nomer tabelya prepodavatelya": 5},
A.W.", "nomer tabelya prepodavatelya": 5},
A.H.", "nomer tabelya prepodavatelya": 5},
М.Д.", "nomer zachetki": "m2050413", "ocenka": "5", "fio prepodavatelya": "Никифоров
А.Д.", "nomer zachetki": "m20504110", "ocenka": "5", "fio prepodavatelya": "Никифоров
A.H.", "nomer tabelya prepodavatelya": 5},
Я.", "nomer zachetki": "m20504111", "ocenka": "5", "fio prepodavatelva": "Никифоров
A.H.", "nomer tabelya prepodavatelya": 5},
<del>{"fio studenta":"Чигур</del>
A.H.", "nomer tabelya prepodavatelya": 5},
A.H.", "nomer tabelya prepodavatelya": 5},
M.", "nomer zachetki": "m20504114", "ocenka": "3", "fio prepodavatelya": "Никифоров
```

```
A.W.", "nomer tabelya prepodavatelya": 5},
И.A.", "nomer zachetki": "m20504117", "ocenka": "4", "fio prepodavatelya": "Никифоров
A.H.", "nomer tabelya prepodavatelya": 5},
A.W.", "nomer tabelya prepodavatelya": 5},
A.W.", "nomer tabelya prepodavatelya": 5},
Л.Г.", "nomer zachetki": "m20504120", "ocenka": "4", "fio prepodavatelya": "Никифоров
insert into nenormalizirovannava (
 "nomer vedomosti", "nazvanie kursa lekciy",
 "identifikator kursa lekciv", "nomer gruppi",
<del>values</del>
 (21, 'Основы программирования в ядерной отрасли', 111, 'М20-514', 'Загребаев
<del>C.H.","student number":"m2051422","grade":"4","teacher name":"Загребаев</del>
A.M.", "nomer tabelya prepodavatelya": 1},
C.H.","nomer_zachetki":"m2051422","ocenka":"4","fio_prepodavatelya":"3arpe6aeB
A.M.", "nomer tabelya prepodavatelya": 1},
M.E.", "nomer zachetki": "m2051423", "ocenka": "3", "fio prepodavatelya": "Загребаев
A.M.", "nomer tabelya prepodavatelya": 1},
М.Л.", "nomer zachetki": "m2051421", "ocenka": "4", "fio prepodavatelya": "Загребаев
A.M.", "nomer tabelya prepodavatelya": 1},
A.M.", "nomer tabelya prepodavatelya": 1},
A.M.", "nomer tabelya prepodavatelya": 1},
```

```
{"fio_studenta":"ФОЛКНЕР

B.K.","nomer_zachetki":"m2051429","ocenka":"4","fio_prepodavatelya":"Загребаев

A.M.","nomer_tabelya_prepodavatelya": 1},

{"fio_studenta":"A34MOB

A.","nomer_zachetki":"m2051431","ocenka":"4","fio_prepodavatelya":"Загребаев

A.M.","nomer_tabelya_prepodavatelya": 1},

{"fio_studenta":"Дик

Ф.К.","nomer_zachetki":"m2051433","ocenka":"3","fio_prepodavatelya":"Загребаев

A.M.","nomer_tabelya_prepodavatelya": 1},

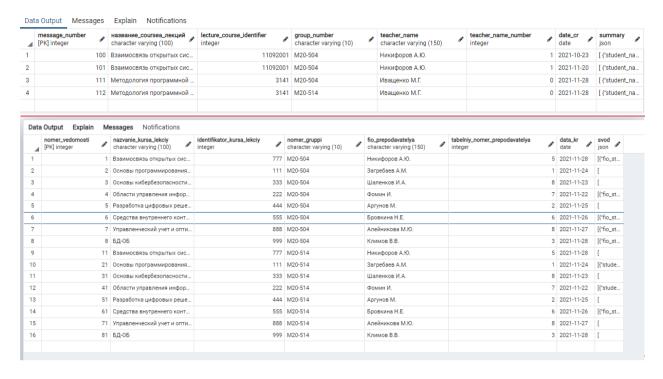
{"fio_studenta":"Декард

P.","nomer_zachetki":"m2051434","ocenka":"2","fio_prepodavatelya":"Загребаев

A.M.","nomer_tabelya_prepodavatelya": 1}

]'
);
```

Результат заполнения можете увидеть ниже:



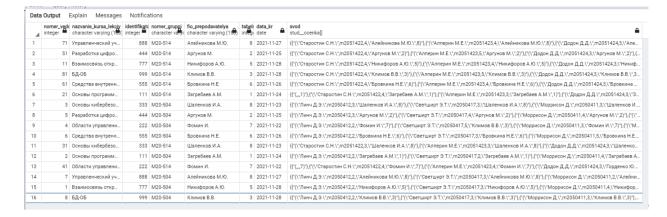
Ниже показано создание ненормализованной таблицы из исходной через ARRAY (продолжение в *приложении 2*):

```
create type st_gr as (
 "student_name" text, "student_number" text,
 "grade" int4, "teacher_name" text,
 "teacher book number" int4
create table unnormalize arr as (
 select
  "message_number",
  "название coursea лекций",
  "lecture course identifier",
  "group_number",
  "teacher_name",
  "teacher name number",
  "date_cr",
 array_agg(
   array[(
    arr ->> 'student_name', arr ->> 'student_number',
    arr ->> 'grade', arr ->> 'teacher name',
    arr ->> 'teacher_book_number'
  ):: st_gr]
 ) as "summary"
 from
  unnormalize cross
  join lateral json_array_elements("summary") as arr
 group by
  "message_number",
  "название_coursea_лекций",
  "lecture course identifier",
  "group_number",
  "teacher name".
```

```
"date cr"
create type stud ocenka as (
    -"fio_studenta" text, "nomer_zachetki" text,
-"ocenka" int4, "fio_prepodavatelya" text,
"nomer_tabelya_prepodavatelya" int4
create table nenormalizirovannaya_arr as (
-select
-"nomer_vedomosti",
 "nazvanie_kursa_lekciy",
  "identifikator kursa lekciy",
 "nomer_gruppi",
 <u>"fio_prepodavatelya"</u>,
 "tabelniy_nomer_prepodavatelya",
 "data kr",
- array_agg(
 -array[(
   arr ->> 'fio studenta', arr ->> 'nomer zachetki',
   arr ->> 'ocenka', arr ->> 'fio_prepodavatelya',
 arr >> 'nomer_tabelya_prepodavatelya'
 --):: stud__ocenka]
<del>) as "svod"</del>
<del>-from</del>
- nenormalizirovannaya cross
- join lateral json_array_elements("svod") as arr
-group by
 "nomer_vedomosti",
"nazvanie_kursa_lekciy",
 "identifikator_kursa_lekciy",
 "nomer_gruppi",
  "fio_prepodavatelya",
 <u>"tabelniy_nomer_prepodavatelya",</u>
<del>"data kr"</del>
<del>);</del>
```

"teacher name number",

Что получилось:



Выводим в виде плоской таблице, то есть приводим к 1НФ:

Для типа JSON:

```
select
  tmp."message number",
  tmp."название coursea лекций",
  tmp."lecture course identifier"
  tmp."group_number",
  tmp."teacher name",
  tmp."teacher name number",
  tmp."date_cr",
  tmp.arr ->> 'student name' as "student name",
  tmp.arr ->> 'student number' as "student number".
  tmp.arr ->> 'grade' as "grade",
  tmp.arr ->> 'teacher name' as "teacher name",
  tmp.arr ->> 'teacher book number' as "teacher book number"
from
 (
    select
      "message number",
      "название coursea лекций"
      "lecture course identifier"
      "group number",
      "teacher name"
      "teacher name number",
      "date cr"
      json array elements("summary") as arr
      unnormalize
  ) as tmp;
```

```
select
    tmp."nomer_vedomosti",
    tmp."nazvanie_kursa_lekciy",
    tmp."identifikator_kursa_lekciy",
    tmp."nomer_gruppi",
    tmp."fio_prepodavatelya",
    tmp."tabelniy_nomer_prepodavatelya",
    tmp."data_kr",
    tmp.arr ->> 'fio_studenta' as "fio_studenta",
    tmp.arr ->> 'nomer_zachetki' as "nomer_zachetki",
    tmp.arr ->> 'ocenka' as "ocenka",
    tmp.arr ->> 'fio_prepodavatelya' as "fio_prepodavatelya",
    tmp.arr ->> 'nomer_tabelya_prepodavatelya' as "nomer_tabelya_prepodavatelya"
from
```

Для типа ARRAY:

```
select
 "message number",
 "название coursea лекций",
 "lecture course identifier",
 "group number",
 "teacher name",
 "teacher name number",
 "date cr",
    unnest("summary")
 ).student name,
   unnest("summary")
  ).student number,
    unnest("summary")
  ).grade,
   unnest("summary")
 ).teacher name,
   unnest("summary")
  )."teacher book number"
from
 unnormalize arr;
```

```
select
    "nomer_vedomosti",
    "nazvanie_kursa_lekciy",
    "identifikator_kursa_lekciy",
```

Перейдем к $3H\Phi$ и создам таблицы из таблицы nonnormalize (тип JSON) (продолжение в приложении 3)

```
create table summary as (
select
 tmp."message number",
  tmp.arr ->> 'student_number' as "student_number",
 tmp.arr ->> 'grade' as "grade",
 tmp.arr ->> 'teacher_book_number' as "teacher_book_number"
from
__(
 select
    "message number",
   json_array_elements("summary") as arr
  from
   unnormalize
 ) as tmp
<u>);</u>
create table teacher_table as (
 tmp.arr ->> 'teacher name' as "teacher name",
 tmp.arr ->> 'teacher_book_number' as "teacher_book_number"
from
__(
 select
 json_array_elements("summary") as arr
   from
  unnormalize
 ) as tmp
 group by
```

```
"teacher name",
   "teacher _book_number"
create table kontrolnie as (
 <del>select</del>
    "nomer vedomosti",
    "nazvanie_kursa_lekciy",
   "identifikator_kursa_lekciy",
   "nomer gruppi",
  -- "fio_prepodavatelya",
    "tabelniy_nomer_prepodavatelya",
    "data kr"
 from
 nenormalizirovannaya
<del>);</del>
create table napravlenie as (
 select
   "nazvanie_kursa_lekciy",
   <u>"identifikator_kursa_lekciy"</u>
 from
   - nenormalizirovannaya
 group by
    "identifikator_kursa_lekciy",
  <u>"nazvanie_kursa_lekciy"</u>
<del>);</del>
```

Перейдем к 3HФ и создам таблицы из таблицы nonnormalize_arr (тип ARRAY)

```
create table control as (
 select
  "message_number",
  "название coursea лекций",
  "lecture course identifier",
  "group number",
  "teacher_name",
  "teacher_name_number",
  "date cr"
 from
  unnormalize
);
create table course as (
select
  "название coursea лекций",
 "lecture_course_identifier"
from
 unnormalize
 group by
  "lecture course identifier",
  "название coursea лекций"
```

```
<del>create table kontrolnie as (</del>
— <del>select</del>
```

```
"nomer_vedomosti",
    "nazvanie_kursa_lekciy",
    "identifikator_kursa_lekciy",
    "nomer_gruppi",
    "fio_prepodavatelya",
    "tabelniy_nomer_prepodavatelya",
    "data_kr"
    from
        nenormalizirovannaya
);
create_table_napravlenie_as_(
        select
        "nazvanie_kursa_lekciy",
        "identifikator_kursa_lekciy"
        from
        nenormalizirovannaya
        group_by
        "identifikator_kursa_lekciy",
        "nazvanie_kursa_lekciy",
        "identifikator_kursa_lekciy",
        "nazvanie_kursa_lekciy",
        "nazvanie_kursa_lekciy",
        "nazvanie_kursa_lekciy",
        "nazvanie_kursa_lekciy",
        "nazvanie_kursa_lekciy",
        "nazvanie_kursa_lekciy",
        "nazvanie_kursa_lekciy"
```

Перейдем обратно к ненормализованной таблице, которую получим из таблиц в 3HФ (для JSON)

```
select
 control. "message number",
 control. "lecture course identifier",
 course. "название coursea лекций",
 control."group number",
 control."teacher_name_number",
 teacher."teacher_name",
 control."date cr",
 json agg(
    ison build object(
      'student number', summary."student number",
      'student name', students."student name",
      'grade', summary."grade", 'teacher book number',
      teacher table. "teacher book number",
      'teacher name', teacher."teacher name"
from
 control,
  course,
  teacher.
 summary,
 students,
 teacher table
where
 cast(
   teacher table. "teacher book number" as INTEGER
 ) = control."teacher name number"
 and course. "lecture course identifier" =
control."lecture course identifier"
  and students."student number" = summary."student number"
```

```
and teacher table."teacher book number" = summary."teacher book number"
and summary."message number" = control."message number"
group by
control."message number",
control."lecture course identifier",
course."название coursea лекций",
control."group number",
control."teacher name number",
teacher."teacher name",
control."date cr";
```

```
napravlenie."nazvanie kursa lekciy",
 kontrolnie."nomer gruppi",
 kontrolnie."tabelniy nomer prepodavatelya",
 prepodavatel. "fio prepodavatelya",
  ison build object(
     'ocenka', svod."ocenka", 'nomer tabelya prepodavatelya',
     prepodavatel tabel. "nomer tabelya prepodavatelya",
 prepodavatel,
 prepodavatel tabel
  prepodavatel tabel."nomer tabelya prepodavatelya" as INTEGER
 and napravlenie."identifikator kursa lekciy" =
kontrolnie."identifikator kursa lekciy"
 and prepodavatel tabel. "nomer tabelya prepodavatelya" =
svod."nomer tabelya prepodavatelya"
and svod. "nomer vedomosti" = kontrolnie. "nomer vedomosti"
group by
 kontrolnie."nomer vedomosti",
```

Запросы на алгебре:

1. Студенты, сдавшие только контрольную по одному курсу (понимаю как хотя бы одну контрольную по одному курсу).

Подзапрос:

Типы переменных: <u>public summary AS X, public control AS Y kontrolnie AS Y</u> Целевой список: X.*,Y.*

Teлo запроса: (X[X.report number=Y.report number]Y)[Y.report number]
(X[x.nomer vedomosti=Y.nomer_vedomosti]Y)[Y.nomer_vedomosti]<><><(1)</pre>



Типы переменных: tab 1 AS X, tab 1 AS Z tab_1 AS X, tab_1 AS Z

Целевой список: X.student number X.nomer_zachetki

Тело запроса: ((X[X.student number]) EXCEPT ((X[X.student number=Z.student number AND X.report number<>Z.report number]Z)[Z.student number]))

((X[X.nomer_zachetki])EXCEPT((X[X.nomer_zachetki=Z.nomer_zachetki AND

x.nomer_vedomosti<>Z.nomer_vedomosti]Z)[Z.nomer_zachetki]))

• Алгебра	Описание запроса:	Fpynna: 504	Фамилия:	Буданицкий	Запрос: 2	Типы переменных:	O LocLink	T.
ay Ma					tab_1 AS X, tab_1 AS Z			
F 000								
VA.								
	Целевой список:				0			
X.nomer_zachetki								
//Y/Y nomer_zachetkil	Тело запроса:) EXCEPT ((X[X.nomer_zachetki	i-7 nomer zachetki A	ND		SELECT DISTINCT X.nomer	Запрос на SQL:		
X.nomer_vedomosti<>	Z.nomer_vedomosti]Z)[Z.nom	er_zachetki]))	ii v		FROM tab 1 AS X	Zacretki		
					WHERE NOT EXISTS (SELECT *			
					FROM tab_1 AS Z	=Z.nomer_zachetki AND X.nomer_v		
					WHERE X.nomer_zachetki	=2.nomer_zacnetki AND X.nomer_v	edomosti Oz.nomer_vedomosti)	
N.	Результат выполне	эния:			-h			
nomer_zachetki								
O Association	Onucaumo aannoca	Enverse: 504	Фомилия.	V. D. HILLION	Pannoe: 2	Turn i poposicimi im	O Lockink	F
• Алгебра	Описание запроса:	Группа: 504	Фамилия:	Клычков	3anpoc: 2	Типы переменных:	O LocLink	
• Алгебра	Описание запроса:	Группа: 504	Фамилия:	Клычков	3anpoc: 2 tab_1 AS X, tab_1 AS Z	Типы переменных:	O LocLink	
• Алгебра	Описание запроса:	Fpynna:504	Фамилия:	Клычков		Тилы переменных:	O LocLink	
• Алгебра		Fpynna:504	Фамилия:	Клычков		Типы переменных:	O LocLink	
A Arreбpa Who was a state of the state of t	Описание запроса: Целевой список:	Группа:504	Фамилия:	Клычков			O LocLink	
X.student_number	Целевой список: Тело запр оса:			Клычков	tab_1 AS X, tab_1 AS Z	Запрос на SQL:	O LocLink	
X.student_number	Целевой список: Тело запроса: I) EXCEPT ((XIX.student_numb	er=Z.student_numbei		Клычков	tab_1 AS X, tab_1 AS Z	Запрос на SQL:	O LocLink	
X.student_number	Целевой список: Тело запр оса:	er=Z.student_numbei		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.student FROM tab_1 AS X WHERE NOT EXISTS	Запрос на SQL:	O LocLink	
X.student_number	Целевой список: Тело запроса: I) EXCEPT ((XIX.student_numb	er=Z.student_numbei		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X	Запрос на SQL:	O LocLink	
X.student_number	Целевой список: Тело запроса: I) EXCEPT ((XIX.student_numb	er=Z.student_numbei		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL:		
X.student_number	Целевой список: Тело запроса: I) EXCEPT ((XIX.student_numb	er=Z.student_numbei		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number	Целевой список: Тело запроса: I) EXCEPT ((XIX.student_numb	er=Z.student_numbei		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re)	Целевой список: Тело запроса: I) EXCEPT ((XIX.student_numb	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X X.student_number\ X.report_number\ Z.re student_number m2051406	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X X.student_number\ X.report_number\ Z.re student_number m2051406	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051407	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		
X.student_number ((X[X.student_number->Z.re) x.report_number->Z.re) student_number m2051406 m2051406	Целевой список: Тело запроса: J EXCEPT ((XIX.student_numb) pport_number]2]{Z.student_nu	er=Z.student_numbee umber]))		Клычков	tab_1 AS X, tab_1 AS Z SELECT DISTINCT X.studen FROM tab_1 AS X WHERE NOT EXISTS (SELECT = FROM tab_1 AS Z	Запрос на SQL: i_number		

Типы переменных: tab 2 AS X, public students AS Y

Целевой список: Ү.*

Teлo запроса: (X[X.student number=Y.student number]Y)

• Алгебра	Описание запроса:	Группа: 504	Фамилия: Клычков	3	апрос: 3	Типы переменных:	O LocLink	
TAY MYON				tab_2 AS X, pu	iblic_students AS Y			
	Целевой список:							Щ
γ.*							_	┙
	Тело запроса:					Запрос на SQL:		Ц
(X[X.student_number=Y	.student_numberjy)			WHERE EXIST	students AS Y	ent_number)		
	Результат выполнен	ня:						
student_name					student_number			
Макбук М. Сэбэк И. Швартсниггер А.					m2051407 m2051408 m2051406			

2. Преподаватели, которые ставят одни «тройки»

Типы переменных: tab 1 AS X, tab 1 AS Z tab_1 AS X, tab_1 AS Z (таблица получена в 1 задании)

Целевой список: Z.teacher book number Z.nomer tabelya prepodovatelya

Тело запроса: ((Z[Z.teacher book number]) EXCEPT

((X[X.teacher book number=Z.teacher book number AND (X.grade="4" OR

X.grade="5")])[X.teacher book number])) ((Z[Z.nomer_tabelya_prepodovatelya])Except ((X[X.nomer_tabelya_prepodovatelya=Z.nomer_tabelya_prepodovatelya
AND (X.ocenka="4" OR X.ocenka="5")])[X.nomer_tabelya_prepodovatelya]))

Алгебра	Описание запроса:	Группа: 504	Фамилия: Будан		Sanpoc: 5	Типы пере	менных:	Locum	•		
N MU				t, ta	b_1 AS Z						
55)	Целевой список:										
omer_tabelya_prepo											
17 nomor tabolus n	Тело запроса: repodavatelya]) EXCEPT			A ITI	NCT 7 nomos tab	Запрос на SC elya_prepodavatelya	ĮL:				
[X.nomer_tabelya_p	repodavatelya=Z.nomer_tal er_tabelya_prepodavatelya	belya_prepodavatel· !}))	ya AND (X.ocenka="4" OR		AS Z EXISTS	podavatelya=Z.nome	r_tabelya_pr	repodavately	ra AND (X.ocenk	a='2' OR X.ocenk	ka='4'
	Результат выпол	нения:									
	описание запроса:	Fpynna;504	Фамилия: Кльчков	3anpo tab_1 AS X, tab_1 AS		Типы переменны	x: O Lo	cLink			
	описание запроса:	「pynna:504	фамилия: Кльчков			Типы переменны	x: O Lo	cLink			
игебра о		Fpynna;504	Фамилия: Кльчков			Типы переменны	ix: O Lo	clink			
her_book_number	писание запроса: Целевой список: Тело запроса:			tab_1 AS X, tab_1 AS	3	апрос на SQL:	x: O Lou	CLink			
her_book_number	Писание запроса: Целевой список: Тело запроса: If] EXCEPT ((XIX.teacher_book)			tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	апрос на SQL:			de≠5'))		
Mrebpa O	Писание запроса: Целевой список: Тело запроса: If] EXCEPT ((XIX.teacher_book)	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			ode='5'))		
Arrefpa O	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			de='5'))		
Mre6pa 0 Mile 1 Mile 2	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			ode='5'))		
Mr. O O O O O O O O O O O O O O O O O O O	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			ode='5'))		
Mre6pa 0 Mile 1 Mile 2	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			ude='5'))		
Mre6pa 0 Mre7 book_number teacher_book_number teacher_book_number	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			ide='5'))		
Mre6pa 0 Mre7 book_number teacher_book_number teacher_book_number	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			ude='5')		
her_book_number teacher_book_number	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			ide='5'))		
her_book_number teacher_book_number	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			ide='5'))		
her_book_number teacher_book_number	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			ode='5'))		
her_book_number teacher_book_number	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			ode='5'))		
Mre6pa 0 Mre7 book_number teacher_book_number teacher_book_number	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			nde='3'))		
Mre6pa 0 Mre7 book_number teacher_book_number teacher_book_number	Писание запроса: Целевой список: Тело запроса: rr]) EXCEPT ((X[X.teacher_boook_number]))	ok_number=Z.teache		tab_1AS X, tab_1AS rade="\$FEREM TOISTINCT 2.5 WHERE NOT EXISTS (SELECT ** FROM tab_1AS X	z aeacher book_nur	anpoc на SQL: nber			nde='5"))		

Преподаватели, которые ставят одни «тройки»

Типы переменных: tab 3 AS X, public teacher book AS Y Целевой список: Y.*

T е л о з а п р о с а: (X[X.teacher book number=Y.teacher book number]Y)

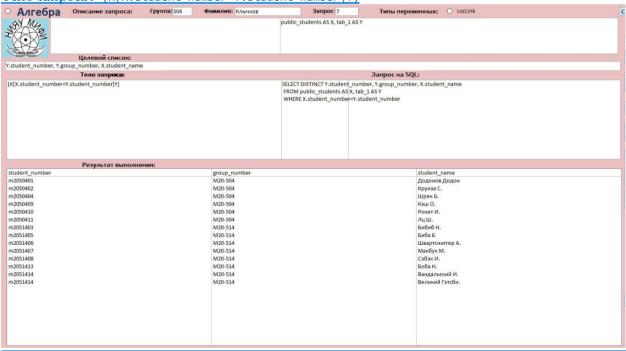
• Алгебра	Описание запроса:	Группа: 504	Фамилия: Клычков	Запрос: 6	Типы переменных: O LocLink	
TO MYOU			tab_3 /	AS X, public_teacher_bool	kASY	
55	Целевой список:					
Y.*	- 100					
	Тело запроса:				Запрос на SQL:	
(X[X.teacner_book_nun	nber=Y.teacher_book_numbe	α ν)	FROM WHEF (SELE:	T DISTINCT Y.* I public_teacher_book AS RE EXISTS CT * FROM tab_3 AS X RE X.teacher_book_number	Y er=Y.teacher_book_number)	
	Результат выполне	ения:				
teacher_name				teacher_book_nui	mber	
Maga M.				0		

Преподаватели, которые ставят одни «тройки»

Типы переменных: public students AS X, tab 1 AS Y

Целевой список: Y.student number, Y.group number, X.student name

Тело запроса: (X[X.student number=Y.student number]Y)



3. Студенты, сдавшие контрольные по всем курсам

Типы переменных: public control AS Y student AS X, tab_1 AS Y Целевой список: X.*, Y.nomer_zachetki, Y.nomer_gruppi, X.fio_studenta

T ело запроса: (X[X.report number=Y.report number]Y) (X[X.nomer_zachetki=Y.nomer_zachetki]Y)

(MEXTHORIE		1 111011101	_rache entr	• /		
 Алгебра 	Описание запроса:	: Группа: 504	Фамилия: Будани	цкий Запрос:	7 Типы переменных:	O LocLink
ay M.		NAME OF THE OWNER.		identi AS X,	ah 1 AS V	
1977				ideliti AS A,	ab_1A31	
ICON 2						
N. X.						
1777						
	Целевой список:					
V nomer zachetki V r	nomer_gruppi, X.fio_student					
T.Homer_zachetki, T.i		tu .			3 501	
	Тело запроса:				Запрос на SQL:	
(X[X.nomer_zachetki	i=Y.nomer_zachetki]Y)			SELECT DISTINCT Y.noi	mer_zachetki, Y.nomer_gruppi, X.fio_stude	enta
				FROM public_student		
				WHERE X, nomer_zach	etki=Y.nomer_zachetki	
	Результат выпо	лнения:				
nomer_zachetki	265		nomer_gruppi		fio_studenta	^
m2050411			M20-504		Моррисон Д.	
m20504110			M20-504		Авраменко А.Д.	
m20504111			M20-504		Мусаева Я.	
m20504111			M20-504		Дебюсси К.	
m20504112			M20-504		Буданицкий А.В.	
m20504114			M20-504		Равель М.	
m20504115			M20-504		Дворжак А.	
m20504116			M20-504		Лозница С.В.	
m20504117			M20-504		Хржановский И.А.	
m20504118			M20-504		Клёнский Ю.Г.	
m20504119			M20-504		Герман А.Ю.	
m2050412			M20-504		Линч Д.Э.	
m20504120			M20-504		Корнилов Л.Г.	
m2050413			M20-504		Клычков М.Д.	
m2050414			M20-504		Моргунов Е.П.	
m2050415			M20-504		Новиков Б.А.	
m2050416			M20-504		Лузанов В.П.	
m2050417			M20-504		Светширт Э.Т.	
m2050418			M20-504		Чигур А.	
			M20-504			
m2050419			M20-504		Сан-Сан К.	
m2051421			M20-514		Сан-Сан К. Ростропович М.Л.	
m2051421 m2051422	•		M20-514 M20-514		Сан-Сан К. Ростропович М.Л. Старостин С.Н.	
m2051421	Описание запроса:	Группа: 504	M20-514	Sanpoc: 9	Сан-Сан К. Ростропович М.Л.	,
m2051421 m2051422	Описание запроса:	Группа: 504	M20-514 M20-514	Sanpoc: 9	Сан-Сан К. Ростропович М.Л. Стапостин С Н Типы переменных: ○ LocLink	
m2051421 m2051422	Описание запроса:	Группа: 504	M20-514 M20-514		Сан-Сан К. Ростропович М.Л. Стапостин С Н Типы переменных: ○ LocLink	
m2051421 m2051422	Описание запроса:	Fpynna: 504	M20-514 M20-514		Сан-Сан К. Ростропович М.Л. Стапостин С Н Типы переменных: ○ LocLink	
m2051421 m2051422	Описание запроса:	Fpynna: 504	M20-514 M20-514		Сан-Сан К. Ростропович М.Л. Стапостин С Н Типы переменных: ○ LocLink	
m2051421 m2051422		Группа : 504	M20-514 M20-514		Сан-Сан К. Ростропович М.Л. Стапостин С Н Типы переменных: ○ LocLink	
m2051421 m2051422 • Aлгебра	Целевой список:	Γ руппа :504	M20-514 M20-514		Сан-Сан К. Ростропович М.Л. Стапостин С Н Типы переменных: ○ LocLink	
m2051421 m2051422	Целевой список: cture_course_identifier	Fpynna:504	M20-514 M20-514		Сан-Сан К. Ростропович М.Л. Стапостан С Н Типы переменных: О LocLink ntrol AS Z	
m2051421 m2051422 • Arre6pa	Целевой список: cture_course_identifier Тело запроса:		M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_cc	Сан-Сан К. Ростропович М.Л. Сталостин С.Н Типы переменных: O LocLink ntrol AS Z Запрос на SQL:	
m2051421 m2051422 Arre6pa X.student_number, Z.let ((([Z[Z.group_number=X	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student		M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_cc	Сан-Сан К. Ростропович М.Л. Сталостин С Н Типы переменных: О LocUnk ntrol AS Z Запрос на SQL: aber, Z.lecture_course_identifier	
m2051421 m2051422 • Arre6pa	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student		M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	Сан-Сан К. Ростропович М.Л. Стапостан С Н Типы переменных: O LocLink ntrol AS Z Запрос на SQL: aber, Z.lecture_course_identifier l AS Z	
m2051421 m2051422 Arre6pa X.student_number, Z.let ((([Z[Z.group_number=X	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student		M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_ccc sturber_cqu.phbthyCT X.student_nun FROM tab_4 AS X, public_contr WHERE Zgroup_number=k, group_number=k, gro	Сан-Сан К. Ростропович М.Л. Стапостан С Н Типы переменных: O LocLink ntrol AS Z Запрос на SQL: aber, Z.lecture_course_identifier l AS Z	
m2051421 m2051422 Arre6pa X.student_number, Z.let ((([Z[Z.group_number=X	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student		M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co student_graphs by CT X. student_num FROM tab_4 AS X, public_contro WHERE Z. group_number=X. grou (SELECT **	Сан-Сан К. Ростропович М.Л. Стапостан С Н Типы переменных: O LocLink ntrol AS Z Запрос на SQL: aber, Z.lecture_course_identifier l AS Z	
m2051421 m2051422 Arre6pa X.student_number, Z.let ((([Z[Z.group_number=X	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student		M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co studspaces and tab_5 AS Y, public_control where 2 group_number=1, grou (SELECT * FROM tab_5 AS Y	Сан-Сан К. Ростроювич М.Л. Станостин С Н Типы переменных: О LocLink ntrol AS Z Запрос на SQL: uber, Z.lecture_course_identifier I AS Z др_number AND NOT EXISTS	
m2051421 m2051422 Arre6pa X.student_number, Z.let ((([Z[Z.group_number=X	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student		M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co studspaces and tab_5 AS Y, public_control where 2 group_number=1, grou (SELECT * FROM tab_5 AS Y	Сан-Сан К. Ростропович М.Л. Стапостан С Н Типы переменных: O LocLink ntrol AS Z Запрос на SQL: aber, Z.lecture_course_identifier l AS Z	
m2051421 m2051422 Arre6pa X.student_number, Z.let ((([Z[Z.group_number=X	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student		M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co studspaces and tab_5 AS Y, public_control where 2 group_number=1, grou (SELECT * FROM tab_5 AS Y	Сан-Сан К. Ростроювич М.Л. Станостин С Н Типы переменных: О LocLink ntrol AS Z Запрос на SQL: uber, Z.lecture_course_identifier I AS Z др_number AND NOT EXISTS	
m2051421 m2051422 Arre6pa X.student_number, Z.let ((([Z[Z.group_number=X	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student		M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co studspaces and tab_5 AS Y, public_control where 2 group _number=k_grou (SELECT * FROM tab_5 AS Y	Сан-Сан К. Ростроювич М.Л. Станостин С Н Типы переменных: О LocLink ntrol AS Z Запрос на SQL: uber, Z.lecture_course_identifier I AS Z др_number AND NOT EXISTS	
m2051421 m2051422 Arre6pa X.student_number, Z.let ((([Z[Z.group_number=X	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student		M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co studspaces and tab_5 AS Y, public_control where 2 group _number=k_grou (SELECT * FROM tab_5 AS Y	Сан-Сан К. Ростроювич М.Л. Станостин С Н Типы переменных: О LocLink ntrol AS Z Запрос на SQL: uber, Z.lecture_course_identifier I AS Z др_number AND NOT EXISTS	
m2051421 m2051422 Arre6pa X.student_number, Z.let ((([Z[Z.group_number=X	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co studspaces and tab_5 AS Y, public_control where 2 group _number=k_grou (SELECT * FROM tab_5 AS Y	Сан-Сан К. Ростроювич М.Л. Станостин С Н Типы переменных: О LocLink ntrol AS Z Запрос на SQL: uber, Z.lecture_course_identifier I AS Z др_number AND NOT EXISTS	
m2051421 m2051427 Arre6pa X.student_number, Z.le (((Z/Z.group_number=XY.lecture_course_ident	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 m2051421 Arre6pa X.student_number.Z.let (((Z[Z_group_number=X_leture_course_ident_number))	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 Arre6pa X.student_number, Z.le: (((Z[Z.group_number=x-Y.lecture_course_ident_number_m2050402)	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 m2051421 m2051421 Arre6pa X.student_number_X.let (((Z[Z.group_number=X Y.lecture_course_ident m2050402 m2050402	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 m2051421 Arrefpa X.student_number, Z.let (((Z[Z.group_number=X').letture_course_ident) m2050402 m2050402 m2050404	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 m2051421 Arrefpa X.student_number_X.letture_course_ident [((IZIZ_group_number=X Y.lecture_course_ident m2050402 m2050404 m2050404	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 m2051421 Arrefpa X.student_number_X.let (((Z[Z_group_number=X Y.lecture_course_ident m2050402 m2050404 m2050404 m2050409	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 Arrefpa X.student_number, Z.le ((([Z[Z_group_number=x]) Y.lecture_course_ident m2050402 m2050402 m2050404 m2050404 m2050409	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 m2051421 Arre6pa X.student_number, Z.let (((Z[Z.group_number=X Y.lecture_course_ident m2050402 m2050402 m2050404 m2050404 m2050404 m2050404 m2050410 m2050411	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 Anre6pa X.student_number, Z.le (((Z[Z_group_number=X_lecture_course_ident_number_m2050402 m2050402 m2050404 m2050404 m2050401 m2050411 m2051403	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 m2051421 Arre6pa X.student_number_Z.let (((Z[Z_group_number=X Y.lecture_course_ident m2050402 m2050404 m2050404 m2050404 m2050409 m2050411 m2051405	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 m2051421 X.student_number, Z.let (((Z[Z_group_number=X Y.lecture_course_ident m2050402 m2050404 m2050404 m2050409 m2050410 m2050410 m2051405 m2051405 m2051405	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 m2051421 m2051421 Arre6pa X.student_number, Z.let [((Z[Z_group_number=x] V.lecture_course_ident m2050402 m2050404 m2050404 m2050404 m2050404 m2050404 m2050405 m2051405 m2051406 m2051406	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 m2051421 m2051421 m2051421 m2051421 m2051421 m2051421 m2051421 m2051402 m2050402 m2050404 m2050409 m2050410 m2050410 m2051405 m2051406 m2051406 m2051406 m2051406	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 Arre6pa X.student_number, Z.le. [((IZIZ_group_number=X Y.lecture_course_ident Y.lecture_course_ident m2050402 m2050404 m2050404 m2050404 m2050405 m2051405 m2051406 m2051406 m2051407	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 Arre6pa Arre6pa X.student_number_X.let (((Z[Z_group_number=X Y.lecture_course_ident m2050402 m2050402 m2050404 m2050409 m2050411 m2051403 m2051405 m2051405 m2051406 m2051406 m2051407 m2051407	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 Arre6pa X.student_number, Z.le (((IZIZ_group_number=x Y.lecture_course_ident x) x.student_number m2050402 m2050404 m2050404 m2050404 m2050401 m2050401 m2050401 m2050401 m2051405 m2051405 m2051406 m2051406 m2051407 m2051408	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 Arre6pa Arre6pa X.student_number_X.let (((Z[Z_group_number=X Y.lecture_course_ident m2050402 m2050402 m2050404 m2050409 m2050411 m2051403 m2051405 m2051405 m2051406 m2051406 m2051407 m2051407	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 Arre6pa X.student_number, Z.le (((IZIZ_group_number=x Y.lecture_course_ident x) x.student_number m2050402 m2050404 m2050404 m2050404 m2050401 m2050401 m2050401 m2050401 m2051405 m2051405 m2051406 m2051406 m2051407 m2051408	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 Arre6pa X.student_number, Z.le (((IZIZ_group_number=x Y.lecture_course_ident x) x.student_number m2050402 m2050404 m2050404 m2050404 m2050401 m2050401 m2050401 m2050401 m2051405 m2051405 m2051406 m2051406 m2051407 m2051408	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 Arre6pa X.student_number, Z.le (((IZIZ_group_number=x Y.lecture_course_ident x) x.student_number m2050402 m2050404 m2050404 m2050404 m2050401 m2050401 m2050401 m2050401 m2051405 m2051405 m2051406 m2051406 m2051407 m2051408	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 Arre6pa X.student_number, Z.le (((IZIZ_group_number=x Y.lecture_course_ident x) x.student_number m2050402 m2050404 m2050404 m2050404 m2050401 m2050401 m2050401 m2050401 m2051405 m2051405 m2051406 m2051406 m2051407 m2051408	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	
m2051421 All American Paragraphics X.student_number, Z.le [(([Z[Z_group_number=x]] V.lecture_course_ident	Целевой список: cture_course_identifier Тело запроса: C.group_number[X][X.student_ lifier]])	_number, Z.lecture_co	M20-514 M20-514 Фамилия: Клычков	tab_4 AS X, tab_5 AS Y, public_co	CAH-Cah K. POCTPONDBUY M.J. CTANOCTUM C H TURIM REPEMENHANX: O LOCLINK INTROLAS Z 3anpoc na SQL: iber, Z.lecture_course_identifier il As Z up_number AND NOT EXISTS udent_number AND Y.lecture_course_identifi	

Типы переменных: tab 4 AS X, tab 5 AS Y, public control AS Z publick_svod AS X,

publick_kintrolnie AS Y

Целевой список: X.student number, Z.lecture course identifier X.*, Y.identifikator_kursa_lekciy

T e π o 3a π poca: $(((Z[Z.group number=X.group number]X)[X.student number, Z.lecture course identifier]) EXCEPT <math>(Y[Y.student number, Y.lecture course identifier])) <math>(X[X.nomer_vedomosti=Y.nomer_vedomosti]Y)$

• Алгебра	Описание запроса:	Группа: 504	Фамилия: Буданицкий	3anpoc: 8	Типы переменных:	O LocLink	C
AN MA				od AS X, public_kontrol	nie AS Y		
I DE							
122							
	Целевой список:						
X.*, Y.identifikator_kurs	за_leксіу Тело запроса:				Запрос на SQL:		
(X[X.nomer_vedomost	ti=Y.nomer_vedomosti]Y)			SELECT DISTINCT X.*, Y.identifika	tor_kursa_lekciy		
				FROM public_svod AS X, public_ WHERE X.nomer_vedomosti=Y.r	kontrolnie AS Y		
				WHERE AUTOMET_VEGOTIOSU=1.1	ionei_vedomosti		
	Результат выполнени	ия:					
nomer_vedomosti 4	nomer_za m2050411		ocenka 5	nom	er_tabelya_prepodavatelya	identifikator_kursa_lekciy 222	^
1	m2050411	10	5	5		777	
5 21	m2050411 m2051434		4 2	2		444 111	
81	m2051426	6	3	3		999	
11	m2051431		5	5		777	
81 4	m2051428 m2050411		2 3	3 7		999 222	
7	m2050419	9	2	8		888	
51	m2051426		2	2		444	
21 41	m2051422 m2051422	2	4	1 7		111 222	
51	m2051429		2	3		444	
4 71	m2050416 m2051421		4 5	7 8		222 888	
31	m2051434	4	3	8		333	
61 8	m2051421 m2050411		4 5	6 3		555 999	
21	m2051421		4	1		111	
11	m2051424		3	5		777	
61	m2051434		3	3		555	
	m2050411	1	- 1	3		999	1000
Алгебра		Группа: 504	Фамилия: Клычков	3anpoc: 9	Типы переменных: О		
				3anpoc: 9			
							*
Алгебра	Описание запроса: Г Целевой список:						
	Описание запроса: Г Целевой список: :ture_course_identifier			_4 AS X, tab_5 AS Y, public_contro	I AS Z		
Aлгебра N My X.student_number, Z.lect	Описание запроса: Г Целевой список: tture_course_identifier Тело запроса:	Группа: 504	tat	_4 AS X, tab _5 AS Y, public_contro	AS Z Banpoc на SQL:		
Aлгебра N My X.student_number, Z.lect	Oписание запроса: Г Целевой список: tture_course_identifier Тело запроса: group_number[X][X.student_num	Группа: 504	tab urse_identifier]) EXCEPT (Y[Y.stu dsi	_4 AS X, tab_5 AS Y, public_contro	Banpoc на SQL: Z.lecture_course_identifier Z		
Anrefpa W. M.	Oписание запроса: Г Целевой список: tture_course_identifier Тело запроса: group_number[X][X.student_num	Группа: 504	tab urse_identifier]) EXCEPT (Y[Y.studsBir FF W (S	_4 AS X, tab_5 AS Y, public_contro	Banpoc на SQL: Z.lecture_course_identifier Z		×1
Anrefpa X.student_number, Z.lect ((([Z[Z.group_number=X.	Oписание запроса: Г Целевой список: tture_course_identifier Тело запроса: group_number[X][X.student_num	Группа: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	_4 AS X, tab_5 AS Y, public_control AEGRADBBN/CT X.student_number, IOM tab_4 AS X, public_control AS HERE Z,group_number=X,group_n ELECT **	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS	LocLink	
Anrefpa X.student_number, Z.lect ((([Z[Z.group_number=X.	Oписание запроса: Г Целевой список: tture_course_identifier Тело запроса: group_number[X][X.student_num	Группа: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	_4 AS X, tab_5 AS Y, public_control AEGRADBBN/CT X.student_number, IOM tab_4 AS X, public_control AS HERE Z,group_number=X,group_n ELECT **	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS		- 3
Anrefpa W. M.	Oписание запроса: Г Целевой список: tture_course_identifier Тело запроса: group_number[X][X.student_num	Группа: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	_4 AS X, tab_5 AS Y, public_control AEGRADBBN/CT X.student_number, IOM tab_4 AS X, public_control AS HERE Z,group_number=X,group_n ELECT **	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS	LocLink	- 3)
Anrefpa W. M.	Oписание запроса: Г Целевой список: tture_course_identifier Тело запроса: group_number[X][X.student_num	Группа: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	_4 AS X, tab_5 AS Y, public_control AEGRADBBN/CT X.student_number, IOM tab_4 AS X, public_control AS HERE Z,group_number=X,group_n ELECT **	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS	LocLink	- 3
X.student number, Z.lec (I(2/Z.group_number=X, Y.lecture_course_identif	Oписание запроса: Г Целевой список: tture_course_identifier Тело запроса: group_number[X][X.student_num	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	_4 AS X, tab_5 AS Y, public_control AEGE_ENSINGT X.student_number, NOM tab_4 AS X, public_control AS HERE Z.group_number=X.group_n ELECT = HERE Y.student_number = X.student_number	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number X.student_number X.student_number	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	_4 AS X, tab_5 AS Y, public_control	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number.Z.lect [([[2]Z.group_number=X, V.lecture_course_identif student_number m2050402 m2050402	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	_4 AS X, tab_5 AS Y, public_contro	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number.Z.lect (((Z[Z.group_number=X.Y.lecture_course_identif student_number m2050402 m2050402 m2050404	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	_4 AS X, tab_5 AS Y, public_control	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number, Z.lect (((212.group_number=X, Y.lecture_course_identif student_number m2050402 m2050402	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	_4 AS X, tab_5 AS Y, public_contro	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number, Z.lect [((Z[Z_group_number=X, V.lecture_course_identit x.student_number [((Z[Z_group_number=X, V.lecture_course_identit x.student_number m2050402 m2050404 m2050404 m2050409 m2050409	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	LECT. Dubiny.CT X.student_number_ COM tab_4 AS X, public_control AS HERE Z.group_number=X.group_n HEREY COM tab_5 AS Y HERE Y.student_number=X.student lecture_course_identif 1759 8686 777 1759 3141 3141	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number.X.ecture_course_identif	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	_4 AS X, tab_5 AS Y, public_control AECREPATERNCT X.student_number, KOM tab_4 AS X, public_control AS HERE Z.group_number=X.group_n LECT* KOM tab_5 AS Y HERE Y.student_number=X.student lecture_course_identif 1759 8686 7777 1759 3141	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number. Z.lect ((([Z1.group_number=X, Y.lecture_course_identif x.student_number m2050402 m2050404 m2050404 m2050404 m2050404 m2050401 m2050410 m2050410 m2050410	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	LEGREDISTRINCT X. student_number_ NOM tab_4 AS X, public_control AS HERE Z.group_number=X.group_n HEREY ** NOM tab_5 AS Y HERE Y. student_number = X. student_number_ NOM tab_5 AS Y HEREY ** HE	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number.Z.lect (((/Z[2.group_number=X, Y.lecture_course_identil student_number m2050402 m2050404 m2050404 m2050409 m2050410 m2050410 m2050410 m2051405 m2051405 m2051405	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	LASX, tab_5 ASY, public_control AEGREPASENCT X.student_number, KOM tab_4 AS X, public_control AS HERE Z.group_number=X.group_n LECT* KOM tab_5 AS Y HERE Y.student_number=X.student lecture_course_identif 1759 8686 777 1759 3141 3141 3141 3141 3141 3141 3159 1759 3141	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number. Z.lect (((ZI2.group_number=X, Y.lecture_course_identil student_number m2050402 m2050404 m2050404 m2050404 m2050409 m2050410 m2050410 m2050410 m2050410 m2050410 m2050410 m2051406 m2051406 m2051406	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	Lecture_course_identif lecture_course_identif 1759 8686 777 1759 3141 3141 11759 11759 3141 3141 3141 3141 3141 3141 3141 314	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number, Z.lect [(((Z[Z_group_number=X, Y.lecture_course_identit m2550402 m2550404 m2550404 m2550404 m2550404 m2550408 m2551405 m2551406 m2551406 m2651407	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	LECTION TO AS X, tab_S AS Y, public_control LECTION TO AS X, public_control AS MERE Z, group_number=X, group_number=X, group_number=X, student Lecture_course_identif 1759 8886 777 1759 3141 3141 3141 11759 1759 3141 3141 3141 3141 3141 3141 3141 314	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number, Z.lect [((ZZZgroup_number=X, Y.lecture_course_identii m2550402 m2550402 m2550404 m2550404 m2550404 m2550404 m2551406 m2551406 m2551406 m2551406 m2551407 m2051408	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	Lecture_course_identif lecture_course_identif 1759 8686 777 1759 3141 3141 11759 11759 3141 3141 3141 3141 3141 3141 3141 314	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number. Z.lect [([Z1.group_number=X, Y.lecture_course_identil student_number m2550402 m2550402 m2550404 m2550404 m2550404 m2550404 m2550405 m2551406 m2051406 m2051406 m2051407 m2051407	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	_4 AS X, tab_5 AS Y, public_control AEGREDISTRYCT X.student_number, KOM tab_4 AS X, public_control AS HERE Z.group_number=X.group_n HERE Y.student_number=X.group_n I control AS HERE Y.student_number=X.studen I control AS HERE Y.student_number=X.student HERE Y.st	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number, Z.lect [((ZZZgroup_number=X, Y.lecture_course_identii m2550402 m2550402 m2550404 m2550404 m2550404 m2550404 m2551406 m2551406 m2551406 m2551406 m2551407 m2051408	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	LECT. Dubies of the control as the c	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number, Z.lect [((ZZZgroup_number=X, Y.lecture_course_identii m2550402 m2550402 m2550404 m2550404 m2550404 m2550404 m2551406 m2551406 m2551406 m2551406 m2551407 m2051408	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	LECT. Dubies of the control as the c	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	
X.student_number, Z.lect [((ZZZgroup_number=X, Y.lecture_course_identii m2050402 m2050402 m2050404 m2050404 m2050404 m2050409 m2050410 m2050410 m2050406 m2051406 m2051406 m2051407 m2051407 m2051408	Описание запроса: Целевой список: ture_course_identifier Тело запроса: .group_number[X][X.student_nun	rpynna: 504	tab urse_identifier]) EXCEPT (Y[Y.stu /bi e FF (S (S	LECT. Dubies of the control as the c	Banpoc на SQL: Z.lecture_course_identifier Z zumber AND NOT EXISTS at_number AND Y.lecture_course	LocLink	

Типы переменных: Tab 1 AS X, public summary AS Y, tab 6 AS Z public_kontrolnie AS Z

Целевой список: X.student_number, X.group_number_X.nomer_zachetki,

Z.identificator_kursa_lekciy

Τεπο заπροca: (((Y[Y.student number=X.student number]X)[Y.student number]) EXCEPT (Z[Z.student number])) (((Z[Z.nomer_gruppi=X.nomer_gruppi]X)[X.nomer_zachetki, Z.identifikator_kursa_lekciy]) EXCEPT (Y[Y.nomer_zachetki, Y.identifikator_kursa_lekciy])))

Описание запроса: Группа: 504	Фамилия: Клычков	Запрос: 10	Типы переменных: O LocLink	C
TO SEE	tab	_1 AS X, public_summary AS Y, t	ab_6ASZ	
Целевой список:				100
X.student_number, X.group_number Teno sanpoca:			3	
(((Y[Y.student_number=X.student_number]X)[Y.student_number]) EXCEPT (Z	[7 student number])) CFI	.ECT DISTINCT X.student_numbe	Запрос на SQL:	-
	FRI WH (SE WH (SE FRI	OM tab_1 AS X HERE EXISTS LEECT * FROM public_summary / HERE Y.student_number=X.stud LEECT * OM tab_6 AS Z HERE Z.student_number=Y.stud	AS Y ent_number AND NOT EXISTS	
Результат выполнения:				
student_number		group_number		
m2051414		M20-504 M20-514		

[ДБ1]

О Алгебра Описание запроса: Группа: 504	Фамилия: Буданицкий	3anpoc: 8	Типы переменных:	O LocLink	
AN MY OF		k, tab_5 AS Y, public	kontrolnie AS Z		
Целевой список:		65			
X.nomer_zachetki, Z.identifikator_kursa_lekciy					
Тело запроса:			Запрос на SQL:		
(((Z[Z.nomer_gruppi=X.nomer_gruppi]X][X.nomer_zachetki, Z.identifikat (Y[Y.nomer_zachetki, Y.identifikator_kursa_lekciy]))	FRO WHI (SEL FRO	M tab_4 AS X, public_kor ERE Z.nomer_gruppi=X.no ECT * M tab_5 AS Y	omer_gruppi AND NOT EXISTS	tor_kursa_lekciy=Z.identifikator_kursa_lekciy)	
Результат выполнения:					
nomer_zachetki		identifikator_kursa_lek	ciy		
		111			
		222			
		333			
		444 555			
		777			
		888			
		999			
m2051428		999			$\overline{}$

Типы переменных: tab 7 AS X, <a href="public students AS Y tab_1 AS X, public_svod AS Y, tab_6 AS Z

Целевой список: X.student number, X.group number, Y.student name X.X.nomer_zachetki, X.nomer_gruppi

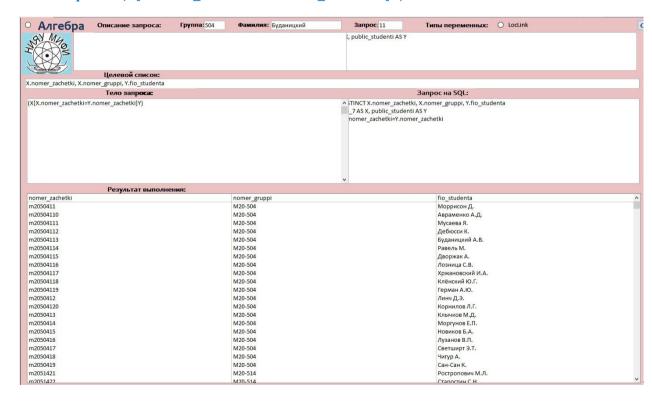
```
T ело запроса: <a href="mailto:(X[X.student number=Y.student number]Y">(((Y[Y.nomer_zachetki=X.nomer_zachetki]X)[Y.nomer_zachetki]) EXCEPT {Z[Z.nomer_zachetki])) <><>(10)</a>
```



Tипы переменных: tab_7 AS X, public_studenti AS Y

Целевой список: X.nomer_zachetki, X.nomer_gruppi, Y.fio_studenta

Тело запроса: (X[X.nomer_zachetki=Y.nomer_zachetki]Y)



4. Преподаватели, которые проверяли контрольные по всем курсам.

Типы переменных: public teacher book AS X, tab 1 AS Y, public course AS Z
publick_prepodovatel_tabel AS X, tab_1 AS Y, publick_napravlenie AS Z

Целевой список: X.* Тело запроса:

(((X[X.teacher book number=Y.teacher book number]Y)[Y.lecture course identifier])

DELETE (Z[Z.lecture_course_identifier]))
 (((X[X.nomer_tabelya_prepodovatelya=Y.nomer_tabelya_prepodovatelya]Y)[Y.identific
 ator_kursa_lekciy]) DISTINCT
(Z[Z.identifikator_kursa_lekciy]))<><><(12)</pre>

игебра	Описание запроса:		Фамилия: Буданицкий	Запрос: 11	Типы переменных:		
Mr.	Описание запроса.	Fpynna: 504	оуданицкии		, tab_1 AS Y, public_napravlenie		
No.				, -	- , -,		
	Целевой список:						
	Тело запроса:				Запрос на SQL:		
.nomer_tabelya_	prepodavatelya=Y.nomer_tabe	elya_prepodavatelya]	Y)[Y.identifikator_kursa_lekciy)) DEFERET DISTINCT X.*			
dentifikator_kursi	a_lekciy]])			FROM public_prepodavatel_ta WHERE NOT EXISTS (SELECT * FROM public_napravlenie AS Z WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y WHERE X_nomer_tabelya_prep_Z.identifikator_kursa_lekdy=Y.	odavatelya=Y.nomer_tabelya_s	repodavatelya AND	
	Результат выполне	ния:					
repodavatelya os B.B.				nomer_tabelya_prepodav 3	atelya		
• A	лгебра ^{Описание}	запроса: Гру	уппа:504 Фамилия:	Клычков Запр		неменных: O LocLink	
· A	Myon		уппа:504 Фамилия:	Кльчков Запр	юс. 12 Типы пер , tab_1 AS Y, public_cour		
THE SECTION OF THE SE	Myon	запроса: Гру	уппа:504 Фамилия:	Клычков Запр			
×.	Мил О Целево Тело за	й список: эпр оса :			, tab_1 ASY, public_cour Запрос на !	se AS Z	
×.	Мил О Целево Тело за	й список: эпр оса :		ELETE (Z[2.lecture 66LECE DEEPINOLE FROM public, te: (SELECT * FROM public Co- WHERE NOT EXIS (SELECT * FROM tab. J. AS'	, tab_1 AS Y, public_cour 3anpoc на ! !il ther book AS X IS	se AS Z	_identifier=Y.lecture_course_identifier
(((x[x.	Ueneso Teno si teacher_book_number=∀.teach	й список: эпр оса :		ELETE (Z[Z.lecture BELEGE IMBERNOTE FROM public Television SELECT* FROM public COMPRENOTE (SELECT* FROM tab_I AS WHERE X.teache	Janpoc Ha! Sanpoc Ha! Trse AS Z Ts book_number=Y,teacher_book_number=Y	se AS Z	_identifier=Y.lecture_course_identifier
x.* (((X[X.	Lleneso Teno si teacher_book_number=Y.teach	й список: anpoca: er_book_number}Y)(\		ELETE (Z[Z.lecture BELEGE IMBERNOTE FROM public Television SELECT* FROM public COMPRENOTE (SELECT* FROM tab_I AS WHERE X.teache	, tab_1 AS Y, public_cour 3anpoc на ! !il ther book AS X IS	se AS Z	

5. Преподаватели, которые проверяли контрольные только у одной группы

Типы переменных: public teacher table AS X, tab 1 AS Y, tab 1 AS Z

prepodavatel_tabel AS X, tab_1 AS Y, tab_1 AS Z

Целевой список: X.* Тело запроса:

(((X[X.teacher book number=Y.teacher book number]Y)[X.teacher book number])

EXCEPT ((Z[Z.teacher book number=Y.teacher book number AND
 Z.group number<>Y.group number]Y)[Z.teacher book number]))
 (((X[X.nomer_tabelya_prepodovatelya=Y.nomer_tabelya_prepodovatelya]Y)[X.nomer_tabelya_prepodovatelya)

EXCEPT ((Z[Z.nomer_tabelya_prepodovatelya=Y.nomer_tabelya_prepodovatelya AND
 Z.nomer_gruppi<>Y.nomer_gruppi]Y)[X.nomer_tabelya_prepodovatelya]))<><><(13)</pre>

0 1	2	Enverou 504	A		200000 II	T	O Loglink	P
О АлгебраО Ми	Описание запроса:	Группа: 504	Фамилия: Буданицкий	-	3anpoc: 11 podavatel tabel AS X	Типы переменных: , tab_1 AS Y, tab_1 AS Z	Locume	L
T. ON						3000 = 27 Maril 2000 = 100 3 4 Mari		
X.*	Целевой список:							
^-	Тело запроса:	-				Запрос на SQL:		
EXCEPT ((Z[Z.nomer_ta		r_tabelya_prepoda) ⋄◇◇(13)	WHERE EX (SELECT * WHERE X. (SELECT * FROM tab WHERE Z.	olic_prepodavatel_tab ISTS FROM tab_1 AS Y nomer_tabelya_prepo _1 AS Z nomer_tabelya_prepo		orepodavatelya AND	
fio_prepodavatelya	Результат выполнен	ния:			er_tabelya_prepodava			
0 A	Алгебра Описание :	запроса: Гру	уппа:504 Фамилия: Клычк		3anpoc: 1: public_teacher_book A:	3 Типы переме S X, tab_1 AS Y, tab_1 AS Z	HHЫX: O LocLink	
19	13/							
X.*	Целевой	список:						
	Тело заг					Запрос на SQL:		
(((X X ((Z Z.:	K.teacher_book_number=Y.teache .teacher_book_number=Y.teacher	r_book_number]Y][X _book_number AND	.t.eacher_book_numberf) EXCEPT Z.group_number<>Y.group_numberf))[Z.teacher	WHERE EXISTS (SELECT * FROM tab_1: WHERE X.teacher_book (SELECT * FROM tab_1 AS Z WHERE Z.teacher_book			>Y.group_number AND
teach	Pезульт her_name	тат выполнения:			teacher b	ook_number		
Абду Джо	урозик К.				teacher_t 3 4 333	_number		

6. Преподаватели, которые проверяли контрольные по двум курсам (= проверяли не более чем у 2 курсов – проверяли у одного курса)

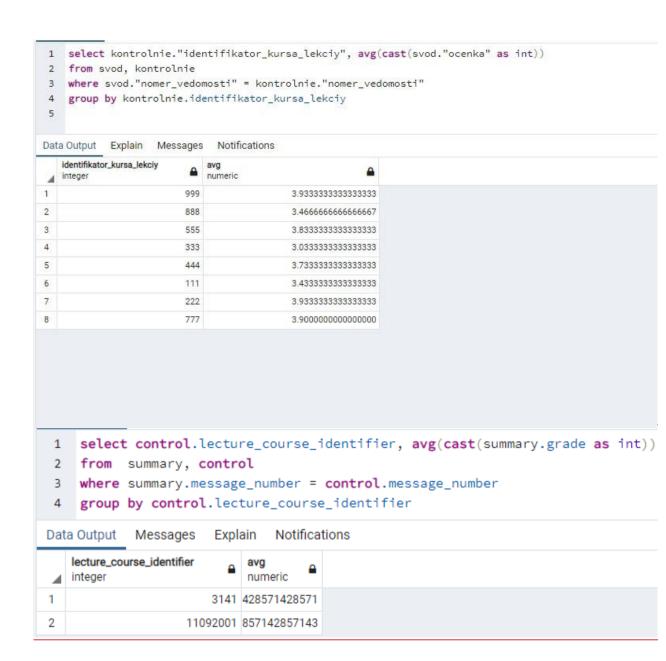
О Алгебра Описание запроса: Группа: 504 Фамилия: Буд	аницкий Запрос: 14 Типы переменных: O LocLink
WW MA	tab_1 as X, tab_1 as Y, tab_1 as Z
£ (3.0) \$	
Целевой список: Y.nomer_tabelya_prepodavatelya	
Тело запроса:	Запрос на SQL:
((Y[Y.nomer_tabelya_prepodavatelya]) EXCEPT (((X[X.nomer_tabelya_prepodavatelya=Y.nomer_tabelya_prepodavatelya AND	SELECT DI\$TINCT Y.nomer_tabelya_prepodavatelya FROM tab_1 AS Y
X.nomer_tabelya_prepodavatelya=Z.nomer_tabelya_prepodavatelya AND Y.nomer_gruppi⇔Z	.nomer_gruppi\wneeke NOT EXISTS
X.nomer_gruppi<>Y.nomer_gruppi]Y) [X.nomer_gruppi<>Z.nomer_gruppi]Z)[X.nomer_gruppi]	FROM tab_1 AS X
	WHERE EXISTS (SELECT * FROM tab_1 AS Z
	WHERE X.nomer_tabelya_prepodavatelya=Y.nomer_tabelya_prepodavatelya AND
	X.nomer_tabelya_prepodavatelya=Z.nomer_tabelya_prepodavatelya AND Y.nomer_gruppi⇔Z.nomer_gruppi AND X.nomer_gruppi⇔Y.nomer_gruppi AND X.nomer_gruppi⇔Z.nomer_gruppi))
Результат выполнения:	
nomer_tabelya_prepodavatelya	
2	
3 4	
5	
6 7	
8	
• Алгебра Описание запроса: Группа:504 Фамилия: Клычков	Запрос: 14 Типы переменных: О Loctink
Алгебра Описание запроса: Группа: 504 Фамилия: Клычков	Запрос: 14 Типы переменных: О LocLink tab_1 as X, tab_1 as Y, tab_1 as Z
Алгебра Описание запроса: Группа:504 Фамилия: Клычков	
28 Miles	
Целевой список: У.teacher_book_number	tab_1 as X, tab_1 as Y, tab_1 as Z
Целевой список: y.teacher_book_number Тело запроса:	tab_1 as X, tab_1 as Y, tab_1 as Z Запрос на SQL:
Целевой список: Y.teacher_book_number Teno запроса: ((YY.teacher_book_number) EXCEPT ((XXL.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number AND X.tea	tab_1 as X, tab_1 as Y, tab_1 as Z SELECT DISTINCT Y, teacher book_number FROM tab_1 AS Y
Целевой список: 7.teacher_book_number Teno запроса: ((YY.teacher_book_number)) EXCEPT (((XX).teacher_book_number=Y.teacher_book_number AND)	tab_1 as X, tab_1 as Y, tab_1 as Z Запрос на SQL: SELECT DISTINCT Y. teacher_book_number
Целевой список: Y.teacher_book_number Teno запроса: ((YY.teacher_book_number) EXCEPT ((XXL.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number AND X.tea	SELECT DISTINCT Y.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT * FROM tab_1 AS X
Целевой список: Y.teacher_book_number Teno запроса: ((YY.teacher_book_number) EXCEPT ((XXL.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number AND X.tea	SELECT DISTINCTY.teacher book_number FROM tab_1 ASY WHERE NOT EXISTS (SELECT* FROM tab_1 ASX WHERE EXISTS (SELECT* FROM tab_1 ASX WHERE EXISTS
Целевой список: Y.teacher_book_number Teno запроса: ((Y]Y.teacher_book_number] EXCEPT ((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number=Xeroup_number=Zeroup_number AND X.teacher_book_number=Zeroup_number=Xeroup_number=	SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS X
Целевой список: Y.teacher_book_number Teno запроса: ((Y]Y.teacher_book_number] EXCEPT ((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number=Zeroup_number AND X.teacher_book_number=Xeroup_number=Zeroup_number AND X.teacher_book_number=Zeroup_number=Xeroup_number=	SELECT DISTINCTY.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT * FROM tab_1 AS X WHERE EXISTS (SELECT * FROM tab_1 AS X (SELECT * FRO
Ueneвой список: У.teacher_book_number Тело запроса: [(Y[V.teacher_book_number]) EXCEPT (((X[X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number=Z.teacher_book_number=XND X.group_number<\tau_group_number<\tau_group_number=XP_group_number]) [X.group_number=\tau_group_number]) Результат выполнения:	SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS X
Целевой список: Y.teacher_book_number Teло запроса: ((YY.teacher_book_number) SCEPT (((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number=Z-teacher_bo	SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS X
Целевой список: Y.teacher_book_number Te.no запроса: ([Y!Y.teacher_book_number] Except (([x X.teacher_book_number=Y.teacher_book_number] Except ([x X.teacher_book_number=Y.teacher_book_number=XND x.group_number<0.2.group_number<0.2.group_number<0.2.group_number[Z][X.group_number]]) X.group_number<0.2.group_number[Z][X.group_number]] Peзультат выполнения: teacher_book_number 0	SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS X
Целевой список: Y.teacher_book_number Teлo запроса: ((Y[Y.teacher_book_number]) EXCEPT (((X[X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number=X, group_number=X, group_number=X, group_number=X, group_number=X, group_number=X, group_number=X, group_number=X, group_number=X, group_number=X, group_number])) **Peay** **Peay*** **Peay** *	SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS X
Целевой список: Y.teacher_book_number Teло запроса: ((YY.teacher_book_number)) EXCEPT (((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number-X.teacher_book_number-X.group_number-<2.group_number-<2.group_number Y (X.group_number-<2.group_number Z)(X.group_number X)) Peзультат выполнения: teacher_book_number 0 1 2 3 3 333	SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS X
Целевой список: Y.teacher_book_number Тело запроса: ([Y]Y.teacher_book_number] X.teacher_book_number=Y.teacher_book_number=AND X.teacher_book_number=Z.teacher_book_	SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS X
Целевой список: Y.teacher_book_number Teлo запроска: ((YY.teacher_book_number) EXCEPT (((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number-Z.teacher_book_number AND Y.group_number<0.Zgroup_number AND X.group_number ○	SAMPOC HA SQL: SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z
Целевой список: Y.teacher_book_number Teлo запроска: ((YY.teacher_book_number) EXCEPT (((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number-Z.teacher_book_number AND Y.group_number<0.Zgroup_number AND X.group_number ○	SAMPOC HA SQL: SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z
Целевой список: Y.teacher_book_number Teлo запроска: ((YY.teacher_book_number) EXCEPT (((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number-Z.teacher_book_number AND Y.group_number<0.Zgroup_number AND X.group_number ○	SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS X
Целевой список: Y.teacher_book_number Teлo запроска: ((YY.teacher_book_number) EXCEPT (((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number-Z.teacher_book_number AND Y.group_number<0.Zgroup_number AND X.group_number ○	SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS X
Целевой список: Y.teacher_book_number Teлo запроска: ((YY.teacher_book_number) EXCEPT (((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number-Z.teacher_book_number AND Y.group_number<0.Zgroup_number AND X.group_number ○	SAMPOC HA SQL: SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z
Целевой список: Y.teacher_book_number Teлo запроска: ((YY.teacher_book_number) EXCEPT (((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number-Z.teacher_book_number AND Y.group_number<0.Zgroup_number AND X.group_number ○	SAMPOC HA SQL: SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z
Целевой список: Y.teacher_book_number Teлo запроска: ((YY.teacher_book_number) EXCEPT (((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number-Z.teacher_book_number AND Y.group_number<0.Zgroup_number AND X.group_number ○	SAMPOC HA SQL: SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS Z WHERE EXISTS (SELECT* FROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z
Целевой список: Y.teacher_book_number Teлo запроска: ((YY.teacher_book_number) EXCEPT (((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number-Z.teacher_book_number AND Y.group_number<0.Zgroup_number AND X.group_number ○	SAMPOC HA SQL: SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z WHERE EXISTS (SELECT* SEROM tab_1 AS Z
Целевой список: Y.teacher_book_number Teло запроса: ((YY.teacher_book_number)) EXCEPT (((X X.teacher_book_number=Y.teacher_book_number AND X.teacher_book_number-X.teacher_book_number-X.group_number-<2.group_number-<2.group_number Y (X.group_number-<2.group_number Z)(X.group_number X)) Peзультат выполнения: teacher_book_number 0 1 2 3 3 333	SELECT DISTINCT V.teacher book_number FROM tab_1 AS Y WHERE NOT EXISTS (SELECT* FROM tab_1 AS X WHERE EXISTS (SELECT* FROM tab_1 AS X

О Алгебра Описание запроса: Группа: 504 Фам				
	милия: Буданицкий	3anpoc: 15	Типы переменных:	O LocLink
AY M4		, tab_1 as Y		
7000				
12/2				
Целевой список:				
X.nomer_tabelya_prepodavatelya				
Тело запроса:			Запрос на SQL:	
((X[X.nomer_tabelya_prepodavatelya]) EXCEPT	SELECT	DI\$TINCT X.nomer_tabelya		
((X[X.nomer_tabelya_prepodavatelya=Y.nomer_tabelya_prepodavatelya AND	FROM	tab 1 AS X	prepodavaterya	
X.identifikator_kursa_lekciy X.identifikator_kursa_lekciy Y.identifikator_kursa_lekciy Y.identifikator_kursa_lekciy				
	(SELEC			
	FROM	tab_1 AS Y		
	WHERE	E X.nomer_tabelya_prepoda	watelya=Y.nomer_tabelya_p	repodavatelya AND
	X.ident	tifikator_kursa_lekciy<>Y.id	entifikator_kursa_lekciy)	
Результат выполнения:				
nomer_tabelya_prepodavatelya				
1				
2				
4				
5				
7				
ебра Описание запроса: Группа: 504 Фамилия: Клычков	3anpoc: 15	Типы переменных:	O Loclink	
eopa omeanic surpoca opposition		Trina nepearennax	O LUCIONI	
y ,				
Целевой список:				
look_number Тело запроса:		Запрос на SQL:		
		эапрос на эцс:		
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND	SELECT DISTINCT X.teacher_book_i	number		
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND	FROM tab_1 AS X	number		
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND	FROM tab_1 AS X WHERE NOT EXISTS	number		
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND	FROM tab_1 AS X WHERE NOT EXISTS (SELECT *	number		
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND	FROM tab_1 AS X WHERE NOT EXISTS) X.lecture_course_identifierぐ	Y.lecture_course_identifier)
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		IX.lecture_course_identifier⇔	·Y.lecture_course_identifier)
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		X.lecture_course_identifier<>	-Y.lecture_course_identifier)
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		IX.lecture_course_identifier⇔	·Y.lecture_course_identifier)
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		IX.lecture_course_identifier⇔	PY.lecture_course_identifier)
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND purse_identifier<>Y.lecture_course_identifier[Y][Y.teacher_book_number]]) Результат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		X.lecture_course_identifier	Y.lecture_course_identifier)
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND purse_identifier	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		X.lecture_course_identifier⇔	Y.lecture_course_identifier)
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND purse_identifier ○Y.lecture_course_identifier[Y][Y.teacher_book_number]])	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		IX.lecture_course_identifier⇔	P.lecture_course_identifier)
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND purse_identifier	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		ıX.lecture_course_identifier⇔	·Y.lecture_course_identifier)
er_book_number]) EXCEPT ((X[x.teacher_book_number=Y.teacher_book_number AND ourse_identifier⇔Y.lecture_course_identifier Y)[Y.teacher_book_number])) Peзyльтат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		X.lecture_course_identifier⇔	Y.lecture_course_identifier)
er_book_number]) EXCEPT ([X[X.teacher_book_number=Y.teacher_book_number AND ourse_identifier ○Y.lecture_course_identifier [Y][Y.teacher_book_number]])	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		X.lecture_course_identifier⇔	Y.lecture_course_identifier)
er_book_number)) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND ourse_identifier ◇Y.lecture_course_identifier[Y)[Y.teacher_book_number[])) Peзyльтат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		iX.lecture_course_identifier⇔	Y.lecture_course_identifier)
er_book_number)) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND ourse_identifier ◇Y.lecture_course_identifier[Y)[Y.teacher_book_number[])) Peзyльтат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		X.lecture_course_identifier⇔	Y.lecture_course_identifier)
er_book_number)) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND ourse_identifier ◇Y.lecture_course_identifier[Y)[Y.teacher_book_number[])) Peзyльтат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y)X.lecture_course_identifier	Y.lecture_course_identifier)
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND purse_identifier	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		x.lecture_course_identifier⇔	Y.lecture_course_identifier)
er_book_number)) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND ourse_identifier ◇Y.lecture_course_identifier[Y)[Y.teacher_book_number[])) Peзyльтат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		x.lecture_course_identifier⇔	Y.lecture_course_identifier)
er_book_number)) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND ourse_identifier ◇Y.lecture_course_identifier[Y)[Y.teacher_book_number[])) Peзyльтат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		ıX.lecture_course_identifier⇔	Y.lecture_course_identifier)
er_book_number)) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND ourse_identifier ◇Y.lecture_course_identifier[Y)[Y.teacher_book_number[])) Peзyльтат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		X.lecture_course_identifier⇔	PY.lecture_course_identifier)
er_book_number)) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND ourse_identifier ◇Y.lecture_course_identifier[Y)[Y.teacher_book_number[])) Peзyльтат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		x.lecture_course_identifier⊖	Y.lecture_course_identifier)
er_book_number)) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND ourse_identifier ◇Y.lecture_course_identifier[Y)[Y.teacher_book_number[])) Peзyльтат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		iX.lecture_course_identifier⇔	Y.lecture_course_identifier)
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND purse_identifier ○Y.lecture_course_identifier[Y][Y.teacher_book_number]])	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		x.lecture_course_identifier⇔	Y.lecture_course_identifier)
er_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND purse_identifier	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		iX.lecture_course_identifier⇔	Y.lecture_course_identifier)
er_book_number]) EXCEPT ((X[x.teacher_book_number=Y.teacher_book_number AND ourse_identifier⇔Y.lecture_course_identifier Y)[Y.teacher_book_number])) Peзyльтат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		.X.lecture_course_identifier<	PY.lecture_course_identifier)
er_book_number)) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND ourse_identifier ◇Y.lecture_course_identifier[Y)[Y.teacher_book_number[])) Peзyльтат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		X.lecture_course_identifier ©	Y.lecture_course_identifier)
r_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND urse_identifier<>Y.lecture_course_identifier[Y][Y.teacher_book_number]])	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		ıX.lecture_course_identifier⇔	Y.lecture_course_identifier)
r_book_number]) EXCEPT ((X[X.teacher_book_number=Y.teacher_book_number AND urse_identifier=>Y.lecture_course_identifier[Y][Y.teacher_book_number])) Peзультат выполнения:	FROM tab_1 AS X WHERE NOT EXISTS (SELECT * FROM tab_1 AS Y		›X.lecture_course_identifier⇔	P.lecture_course_identifier)

Типы переменных: tab8 as X, tab9 as Y tab8 AS X, tab9 AS Y Целевой список: X.teacher-book-number-X.nomer_tabelya_prepodovatelya



7. Курсы лекций средние оценки по контрольным



8. Курсы лекций, по которым нет студентов, написавших все контрольные на «отлично»

```
Типы переменных: tab 5 AS X, tab 5 AS Y, tab 5 AS Z tab_5 AS Y, tab_5 AS Z

Целевой список: X.lecture course identifier, X.student number

X.identifikator_kursa_lekciy, X.nomer_zachetki

Тело запроса: ((X[X.lecture course identifier, X.student number]) EXCEPT
((Y[Y.student number=Z.student number AND
Y.lecture course identifier=Z.lecture course identifier AND (Y.grade="4" OR
Y.grade="3" or Y.grade="2")]Z)[Y.lecture course identifier, Y.student number])
)_((X[X.identifikator_kursa_lekciy]) EXCEPT
((Y[Y.nomer_zachetki=Z.nomer_zachetki AND
Y.identifikator_kursa_lekciy=Z.identifikator_kursa_lekciy AND (Y.ocenka="4" OR
Y.ocenka="3" OR Y.ocenka="2")]Z)[Y.identifikator_kursa_lekciy,
Y.nomer_zachetki]))<><><(17)
```

• Алгебра	Описание запроса:	Группа: 504	Фамилия: Буданицки	й	Запрос	: 17	Типы пер	еменных:	O LocLink		C
ay Ma						Y, tab_5 AS Z	20				
1000											
VA-XV											
	Целевой список:										
X.identifikator_kursa_l	ekciy, X.nomer_zachetki										
Court of the court	Тело запроса:						Запрос на 5				
	'sa_lekciy, x.nomer_zachetk lekciy=Z.identifikator_kursa		er_zachetki=Z.nomer_zachetki :a="4" OR Y.ocenka="3" or	AND	_5 AS X	entifikator_	kursa_lekciy, X.no	mer_zacnet	KI		
	ntifikator_kursa_lekciy, Y.no				OT EXISTS						
					_5 AS Y						
					FROM tab	5 AS 7					
					nomer_zac	hetki=Z.non				y=Z.identifikator_	
						enka='3' or \ .nomer_zach		Y.identifikat	tor_kursa_lekc	y=X.identifikator_	kursa_lekciy AND
	Результат выпол				~						
identifikator_kursa_le		пенил.			nomer_zachetk	i					^
444 444					m20504110 m20504114						
444					m20504114 m2050413						
444					m2050416						
444					m2050418 m2051423						
555					m2050411						
555 555					m20504110 m20504113						
555					m20504115						
555 555					m2050415 m2050418						
555					m2051431						
777					m20504110 m20504111						
777					m20504113						
777					m20504116 m2050413						
777					m2050414						
777 777					m2050415 m2050416						
777					m2050418						· .
• Алгебра	Описание запроса:	Группа: 504	Фамилия: Клычков		3anpoc: 17		пы переменных	: O LocLi	nk		
18000					_5 A	15 2					
TO NE											
1	Целевой список:										-
X.lecture_course_identif	ier, X.student_number										
//Y/V lecture course ide	Teno sanpoca:	EVCEDT (/V/V student)	number=Z.student_number AND	SELECT DIST	NCT V lecture co		oc Ha SQL:	har			
Y.lecture_course_identif	fier=Z.lecture_course_identifie	er AND (Y.grade="4" O		FROM tab_5	AS X	urse_identini	ier, x.student_num	Dei			
Y.grade="2")]Z)[Y.lecture	e_course_identifier, Y.student	_number]))		WHERE NOT (SELECT *							
				FROM tab_5 WHERE EXIS	AS Y						
				(SELECT * FF	ROM tab_5 AS Z						
				Y.grade='3' o	or Y.grade='2') ANI	Y.lecture_co	nber AND Y.lecture ourse_identifier=X.				AND (Y.grade='4' OR
				Y.student_n	umber=X.student	_number))					
lecture_course_identifie	Результат выполнен	ния:			student_numbe						
777					m2050410						
1759 1759					m2050410 m2051406						
8686					m2050410						
8686					m2051414						

Tuпы переменных: tab 5 as X, tab 10 as Y tab_5 AS X, tab_10 AS Y
Целевой список: X.lecture course identifier X.identifikator_kursa_lekciy
Тело запроса: ((X[X.lecture course identifier, X.student number]) EXCEPT
(Y[Y.lecture course identifier, Y.student number]))
((X[X.identifikator_kursa_lekciy, X.nomer_zachetki])) EXCEPT
(Y[Y.identifikator_kursa_lekciy, Y.nomer_zachetki]))



• Алгебра	Описание запроса:	Группа: 504	Фамилия: Буданиц	кий Запр	oc: 18	Типы переменных	: O LocLink	C
gy MG				, tab_10	as Y			
3/10/0								
XOX								
12/2								
X.identifikator_kursa_l	Целевой список:			· · · · · · · · · · · · · · · · · · ·				
x.identifikator_kursa_i	Тело запроса:	70				Запрос на SQL:		
//VIV identifikator ku		il) EVCERT (VIV identi	ifikator_kursa_lekciy, Y.nom	or zachotenact Distinct				
○○○(18)	isa_lekciy, A.Homei_zachetk	all Excert (I[I.ideliti	ilikatoi_kuisa_lekciy, i.iloili	FROM tab_5 AS X	C.Idelitiikatoi_kui	sa_iekciy		
0.50.00.10.00.00				WHERE NOT EXIS				
				(SELECT * FROM tab_10 AS	,			
						=X.identifikator kursa le	ekciv AND Y.nomer za	chetki=X.nomer_zachetki)
				10.000 males - 1000 males				
								/4
	Результат выпол	інения:						
identifikator_kursa_le	ekciy							
111								
222								
333								
444 555								
777								
888								
999								
О Алгебра	Описание запроса:	Группа: 504	Фамилия: Клычков	Запрос: 18	Типы	переменных: О Го	Link	
• Алгебра	Описание запроса:	Группа: 504	Фамилия: Клычков	3anpoc 18	Типы	переменных: О Lov	Link	
• Алгебра	Описание запроса:	Группа: 504	Фамилия: Клычков	3anpoc 18	Типы	переменных: О Lou	Link	
• Алгебра	Описание запроса:	ſpynna: 504	Фамилия: Клычков	3anpoc 18	Типы	переменных: О Loo	Link	
Алгебра «У Мур		Группа: 504	Фамилия: Клычков	3anpoc 18	Типы	переменных: О Lou	Link	
AN MUSE	Целевой список:	Группа: 504	Фамилия: Клычков	3anpoc 18	Типы	переменных: О Los	Link	
Anre6pa	Целевой список: ier	Группа:504	Фамилия: Клычков	3anpoc 18			tink	
X.lecture_course_identif	Целевой список: ier Тело запроса:				3anpoc i		Link	
X.lecture_course_identif	Целевой список: ier Тело запроса:		Фамилия: Клычков urse_identifier, Y.student_nu	m (紹明): 주명5작(NS) X.lecture FROM tab , S.AS X	3anpoc i		Link	
X.lecture_course_identif	Целевой список: ier Тело запроса:			m(seg); T-885™(NS) X.lecture FROM tab 5 AS X WHERE NOT EXISTS	3anpoc i		Link	
X.lecture_course_identif	Целевой список: ier Тело запроса:			misatţţ; 本855円NST X.lecture FROM tab 5.A5 X WHERE NOT EXISTS (SELECT **	3anpoc i		tink	
X.lecture_course_identif	Целевой список: ier Тело запроса:			m(seg); T-885™(NS) X.lecture FROM tab 5 AS X WHERE NOT EXISTS	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identif	Целевой список: ier Тело запроса:			misnift_ceasct,NaST x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identif	Целевой список: ier Тело запроса:			misnift_ceasct,NaST x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identif	Целевой список: ier Тело запроса:			misnift_ceasct,NaST x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identif	Целевой список: ier Тело запроса:	EXCEPT (Y[Y.lecture_co		misnift_ceasct,NaST x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifications ([X]X.lecture_course_identifications are in the course_identification are included as in the course_identification are included are included as in the course_identification are included are included as included are included are included as included are included are included as include	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		misnift_ceasct,NaST x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictive	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		misnift_cesscnwsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifi ((X[X.lecture_course_identifi 777 1759	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		misnift_cesscnwsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictive	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		misnift_cesscnwsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictions ((X[X.lecture_course_identifictions)) lecture_course_identificity 1777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		misnift_cesscnwsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictions ((X[X.lecture_course_identifictions)) lecture_course_identificity 1777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		misnift_cesscnwsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictions ((X[X.lecture_course_identifictions)) lecture_course_identificity 1777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		misnift_cesscnwsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictions ((X[X.lecture_course_identifictions)) lecture_course_identificity 1777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		misnift_cesscnwsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictions ((X[X.lecture_course_identifictions)) lecture_course_identificity 1777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		misnift_cesscnwsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictions ((X[X.lecture_course_identifictions)) lecture_course_identificity 1777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		misnift_cesscnwsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictions ((X[X.lecture_course_identifictions)) lecture_course_identificity 1777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		misnift_cesscnwsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		Jent_number)
X.lecture_course_identifictions ((X[X.lecture_course_identifictions)) lecture_course_identificity 1777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		imisnift_cesisti,Nsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictions ((X[X.lecture_course_identifictions)) lecture_course_identificity 1777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		imisnift_cesisti,Nsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictions ((X[X.lecture_course_identifictions)) lecture_course_identificity 1777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		imisnift_cesisti,Nsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identifictions ((X[X.lecture_course_identifictions)) lecture_course_identificity 1777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		imisnift_cesisti,Nsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		Jent_number)
[(X[X.lecture_course_ide	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		imisnift_cesisti,Nsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)
X.lecture_course_identific ((X)X.lecture_course_identific 777 1759 3141	Целевой список: iler Teno запроса: entifier, X.student_number]) i	EXCEPT (Y[Y.lecture_co		imisnift_cesisti,Nsf x.lecture FROM tab_5 AS X WHERE NOT EXISTS (SELECT * FROM tab_10 AS Y	3anpoc i course_identifier	ia SQL:		dent_number)

Типы переменных: public_course AS X, tab_11 AS Y public_napravlenie AS X, tab_11 AS Y

Целевой список: X.*
Тело запроса: (

<u>Teлo запроса: (</u> (Y[Y.lecture course identifier=X.lecture course identifier]X)[Y.lecture course id

entifier]) ((Y[Y.identifikator_kursa_lekciy]X)[Y.identifikator_kursa_lekciy])<><><()</pre>

О Алгебра Описание запроса: Группа: 504 Фамилия: Буданицкі	ий Запрос: 19 Типы переменных: O LocLink
N Ma	pravlenie AS X, tab_11 AS Y
1000	
*\(\infty\)\s_\s_\	
Целевой список: x.*	
Тело запроса:	Запрос на SQL:
((Y[Y.identifikator_kursa_lekciy=X.identifikator_kursa_lekciy]X)[Y.identifikator_kursa_lekciy])	
	FROM public_napravlenie AS X WHERE EXISTS
	(SELECT * FROM tab_11 AS Y
	WHERE Y.identifikator_kursa_lekciy=X.identifikator_kursa_lekciy)
Результат выполнения:	
nazvanie_kursa_lekciy	identifikator_kursa_lekciy
БД-ОБ	999
Взаимосвязь открытых систем Области управления информационными рисками	777 222
Основы кибербезопасности в частном секторе	333
Основы программирования в ядерной отрасли	111
Разработка цифровых решений для частного сектора Средства внутреннего контроля	444 555
Управленческий учет и оптимизация процессов	888
О Алгебра Описание запроса: Группа: 504 Фамилия: Клычков	Запрос: 19 Типы переменных: О LocLink
• Алгебра Описание запроса: Группа: 504 Фамилия: Клычков	Запрос: 19 Типы переменных: О LocLink
Алгебра Описание запроса: Группа: 504 Фамилия: Ильчиов	
• Алгебра Описание запроса: Группа: 504 Фамилия: Клычнов	
целевой список:	
Делевой список: χ.*	ASY
Целевой список: Х.* Тело запроса:	Запрос на SQL:
Делевой список: χ.*	SELECT DISTINCT X.* FROM public course AS X
Целевой список: Х.* Тело запроса:	SELECT DISTINCT X.* FROM public, course AS X WHERE EXISTS
Целевой список: Х.* Тело запроса:	SELECT DISTINCT X.* FROM public course AS X
Целевой список: Х.* Тело запроса:	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT **FROM tab_11 AS Y
Целевой список: Х.* Тело запроса:	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT **FROM tab_11 AS Y
Целевой список: Х.* Тело запроса:	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT **FROM tab_11 AS Y
Целевой список: x.* Тело запроса: ((Y[Y.lecture_course_identifier=X.lecture_course_identifier]) ⋄ ○ ○ (19)	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT **FROM tab_11 AS Y
Целевой список: Х.* Тело запроса:	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT **FROM tab_11 AS Y
Целевой список: X.* Тело запроса: [(Y[Y.lecture_course_identifier=X.lecture_course_identifier]) ◇◇◇(19) Результат выполнения:	SELECT DISTINCT X.* SELECT DISTINCT X.* FROM public_course AS X WHERE EXIST. (SELECT * FROM tab_11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)
Целевой список: x.* Тело запрока: ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) ((Y[Y.lecture_course_identifier=x.lecture_course_identifier]) Результат выполнения: название_coursea_лекций	SELECT DISTINCT X.* FROM public course AS X WHERE EXISTS (SELECT *FROM tab. 11 AS Y WHERE Y.lecture_course_identifier=X.lecture_course_identifier)

Приложение 1

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<del>insert into nenormalizirovannava (</del>
Д.Э.","nomer zachetki":"m2050412","ocenka":"2","fio prepodavatelya":"Никифоров
Э.Т.","nomer zachetki":"m2050417","ocenka":"3","fio prepodavatelva":"Никифоров
A.H.", "nomer tabelva prepodavatelva": 5},
Д.","nomer zachetki":"m2050411","ocenka":"4","fio prepodavatelya":"Никифоров
<del>E.П.","nomer_zachetki":"m2050414","ocenka":"5","fio_prepodavatelya":"Никифоров</del>
A.W.", "nomer tabelya prepodavatelya": 5},
М.Д.", "nomer_zachetki": "m2050413", "ocenka": "5", "fio prepodavatelya": "Никифоров
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{"fio studenta":"Чигур
A.", "nomer zachetki": "m2050418", "ocenka": "5", "fio prepodavatelya": "Климов
B.B.", "nomer tabelya prepodavatelya": 3},
K.","nomer zachetki":"m2050419","ocenka":"3","fio prepodavatelva":"Никифоров
A.W.", "nomer tabelya prepodavatelya": 5}.
M.","nomer zachetki":"m20504114","ocenka":"3","fio prepodavatelva":"Никифоров
A.","nomer zachetki":"m20504115","ocenka":"4","fio prepodavatelya":"Никифоров
C.B.", "nomer zachetki": "m20504116", "ocenka": "5", "fio prepodavatelva": "Никифоров
A.Ю.","nomer tabelya prepodavatelya": 5}.
<mark>И.А.","nomer zachetki":"m20504117","ocenka":"4","fio prepodavatelya":"Никифоров</mark>
A.W.", "nomer tabelva prepodavatelva": 5}.
Ю.Г.", "nomer zachetki": "m20504118", "ocenka": "4", "fio prepodavatelya": "Никифоров
A.Ю.", "nomer tabelya prepodavatelya": 5},
A.W.", "nomer tabelya prepodavatelya": 5}.
<del>Л.Г.", "nomer zachetki": "m20504120", "ocenka": "4", "fio prepodavatelya": "Никифоров</del>
<del>insert into nenormalizirovannaya (</del>
 "nomer vedomosti", "nazvanie kursa lekciy",
<del>C.H.","nomer zachetki":"m2051422","ocenka":"4","fio prepodavatelya":"Никифоров</del>
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A.H.", "nomer tabelya prepodavatelya": 5},
Д.","nomer zachetki":"m2051426","ocenka":"2","fio prepodavatelva":"Никифоров
A.W.", "nomer tabelya prepodavatelya": 5},
A.H.", "nomer tabelya prepodavatelya": 5},
B.K.", "nomer zachetki": "m2051429", "ocenka": "4", "fio prepodavatelya": "Никифоров
A.", "nomer zachetki": "m2051431", "ocenka": "5", "fio prepodavatelya": "Никифоров
A.W.", "nomer tabelya prepodavatelya": 5},
Ф.К.", "nomer zachetki": "m2051433", "ocenka": "4", "fio prepodavatelya": "Никифоров
A.W.", "nomer tabelya prepodavatelya": 5},
P.", "nomer zachetki": "m2051434", "ocenka": "2", "fio prepodavatelya": "Никифоров
A.W.", "nomer tabelya prepodavatelya": 5}
<del>1');</del>
 "identifikator kursa lekciy", "nomer gruppi",
<del>values</del>
 (2, 'Основы программирования в ядерной отрасли', 111, 'М20-504', 'Загребаев
Д.Э.", "nomer zachetki": "m2050412", "ocenka": "2", "fio prepodavatelya": "Загребаев
A.M.", "nomer tabelya prepodavatelya": 1},
9.T.", "nomer zachetki": "m2050417", "ocenka": "2", "fio prepodavatelya": "Загребаев
A.M.", "nomer tabelya prepodavatelya": 1},
A.M.", "nomer tabelya prepodavatelya": 1},
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В.П.", "nomer zachetki": "m2050416", "ocenka": "5", "fio_prepodavatelya": "Загребаев
A.M.", "nomer tabelya prepodavatelya": 1},
М.Д.","nomer zachetki":"m2050413","ocenka":"4","fio prepodavatelya":"Климов
B.B.", "nomer tabelya prepodavatelya": 3},
Я.", "nomer zachetki": "m20504111", "ocenka": "4", "fio prepodavatelya": "Загребаев
A.", "nomer zachetki": "m2050418", "ocenka": "5", "fio prepodavatelya": "3arpe6aeB
A.M.", "nomer tabelya prepodavatelya": 1},
K.","nomer zachetki":"m2050419","ocenka":"3","fio prepodavatelya":"3arpeбaeв
A.M.", "nomer tabelya prepodavatelya": 1},
K.","nomer zachetki":"m20504112","ocenka":"2","fio prepodavatelya":"3arpe6aeB
A.M.", "nomer tabelya prepodavatelya": 1},
<del>{"fio studenta":"Равель</del>
M.", "nomer zachetki": "m20504114", "ocenka": "2", "fio prepodavatelya": "3arpe6aeB
A.M.", "nomer tabelya prepodavatelya": 1},
A.M.", "nomer tabelya prepodavatelya": 1},
C.B.", "nomer zachetki": "m20504116", "ocenka": "5", "fio prepodavatelya": "Загребаев
И.A.", "nomer zachetki": "m20504117", "ocenka": "4", "fio prepodavatelya": "Загребаев
A.M.", "nomer tabelya prepodavatelya": 1},
A.M.", "nomer tabelya prepodavatelya": 1},
A.W.", "nomer zachetki": "m20504119", "ocenka": "3", "fio prepodavatelya": "3arpe6aeB
A.M.", "nomer_tabelya_prepodavatelya": 1},
Л.Г.", "nomer zachetki": "m20504120", "ocenka": "5", "fio prepodavatelya": "Загребаев
A.M.", "nomer_tabelya_prepodavatelya": 1}
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"nomer vedomosti", "nazvanie kursa lekciv",
<del>values</del>
 <u>(21, 'Основы программирования в ядерной отрасли', 111, 'M20-514', 'Загребаев</u>
A.M.", "nomer tabelya prepodavatelya": 1},
C.H.", "nomer zachetki": "m2051422", "ocenka": "4", "fio prepodavatelya": "Загребаев
A.M.", "nomer tabelya prepodavatelya": 1},
A.M.", "nomer tabelya prepodavatelya": 1},
Д.Д.", "nomer zachetki": "m2051424", "ocenka": "3", "fio prepodavatelya": "Загребаев
М.Л.", "nomer zachetki": "m2051421", "ocenka": "4", "fio prepodavatelya": "Загребаев
Д.", "nomer zachetki": "m2051426", "ocenka": "4", "fio prepodavatelya": "Загребаев
A.M.", "nomer tabelya prepodavatelya": 1},
H.F.", "nomer zachetki": "m2051428", "ocenka": "2", "fio prepodavatelya": "3arpe6aeB
B.K.", "nomer zachetki": "m2051429", "ocenka": "4", "fio_prepodavatelya": "Загребаев
A.M.", "nomer tabelya prepodavatelya": 1},
A.", "nomer zachetki": "m2051431", "ocenka": "4", "fio prepodavatelya": "3arpe6aeB
A.M.", "nomer tabelya prepodavatelya": 1},
Ф.К.", "nomer zachetki": "m2051433", "ocenka": "3", "fio prepodavatelya": "Загребаев
A.M.", "nomer tabelya prepodavatelya": 1},
A.M.", "nomer tabelya prepodavatelya": 1}
insert into nenormalizirovannaya (
 "nomer vedomosti", "nazvanie kursa lekciy",
 "fio prepodavatelya", "tabelniy nomer prepodavatelya",
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M.A.", "nomer tabelya prepodavatelya": 8},
Э.T.", "nomer zachetki": "m2050417", "ocenka": "3", "fio prepodavatelya": "Шаленков
W.A.", "nomer tabelya prepodavatelya": 8},
Д.", "nomer zachetki": "m2050411", "ocenka": "3", "fio prepodavatelya": "Шаленков
M.A.", "nomer tabelya prepodavatelya": 8},
W.A.", "nomer tabelya prepodavatelya": 8},
W.A.", "nomer tabelya prepodavatelya": 8},
В.П.", "nomer zachetki": "m2050416", "ocenka": "3", "fio prepodavatelya": "Шаленков
M.A.", "nomer tabelya prepodavatelya": 8},
A.B.", "nomer zachetki": "m20504113", "ocenka": "3", "fio prepodavatelya": "Шаленков
M.A.", "nomer tabelya prepodavatelya": 8},
<del>{"fio studenta":"Клычков</del>
М.Д.", "nomer zachetki": "m2050413", "ocenka": "3", "fio prepodavatelya": "Шаленков
W.A.", "nomer tabelya prepodavatelya": 8},
А.Д.", "nomer zachetki": "m20504110", "ocenka": "3", "fio prepodavatelya": "Шаленков
W.A.", "nomer tabelya prepodavatelya": 8},
Я.", "nomer zachetki": "m20504111", "ocenka": "4", "fio prepodavatelya": "Климов
B.B.", "nomer tabelya prepodavatelya": 3},
{"fio studenta":"Чигур
M.A.", "nomer tabelya prepodavatelya": 8},
<del>K.","nomer zachetki":"m2050419","ocenka":"3","fio prepodavatelya":"Климов</del>
W.A.", "nomer tabelya prepodavatelya": 8},
M.", "nomer zachetki": "m20504114", "ocenka": "3", "fio prepodavatelya": "Шаленков
H.A.", "nomer_tabelya_prepodavatelya": 8},
A.", "nomer zachetki": "m20504115", "ocenka": "3", "fio prepodavatelya": "Шаленков
M.A.", "nomer tabelya prepodavatelya": 8},
<mark>C.B.","nomer zachetki":"m20504116","ocenka":"3","fio prepodavatelya":"Шаленков</mark>
M.A.", "nomer tabelya prepodavatelya": 8},
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M.A.", "nomer tabelya prepodavatelya": 8}.
A.Ю.", "nomer zachetki": "m20504119", "ocenka": "3", "fio_prepodavatelya": "Шаленков
M.A.", "nomer tabelya prepodavatelya": 8},
W.A.", "nomer tabelya prepodavatelya": 8}
insert into nenormalizirovannava (
<del>values</del>
H.A.', 8, '2021-11-23', '[
<del>C.H.","nomer zachetki":"m2051422","ocenka":"3","fio prepodavatelya":"Шаленков</del>
W.A.", "nomer tabelya prepodavatelya": 8},
M.A.", "nomer tabelya prepodavatelya": 8},
M.A.", "nomer tabelya prepodavatelya": 8},
М.Л.", "nomer zachetki": "m2051421", "ocenka": "3", "fio prepodavatelya": "Шаленков
M.A.", "nomer tabelya prepodavatelya": 8},
Д.", "nomer zachetki": "m2051426", "ocenka": "3", "fio prepodavatelya": "Шаленков
W.A.", "nomer tabelya prepodavatelya": 8},
H.Г.","nomer zachetki":"m2051428","ocenka":"3","fio prepodavatelya":"Шаленков
M.A.", "nomer tabelya prepodavatelya": 8},
B.K.", "nomer zachetki": "m2051429", "ocenka": "3", "fio prepodavatelya": "Шаленков
W.A.", "nomer tabelya prepodavatelya": 8},
<mark>A.","nomer zachetki":"m2051431","ocenka":"3","fio prepodavatelya":"Шаленков</mark>
W.A.", "nomer tabelya prepodavatelya": 8},
Ф.К.", "nomer zachetki": "m2051433", "ocenka": "3", "fio prepodavatelya": "Шаленков
M.A.", "nomer tabelya prepodavatelya": 8},
P.", "nomer zachetki": "m2051434", "ocenka": "3", "fio prepodavatelya": "Шаленков
W.A.", "nomer tabelya prepodavatelya": 8}
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<del>insert into nenormalizirovannava (</del>
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M.","nomer tabelva prepodavatelva": 7},
Д.", "nomer zachetki": "m2050411", "ocenka": "3", "fio prepodavatelva": "Фомин
И.", "nomer tabelya prepodavatelya": 7},
<del>E.П.","nomer zachetki":"m2050414","ocenka":"4","fio prepodavatelya":"Фомин</del>
M.", "nomer tabelya prepodavatelya": 7},
Б.А.","nomer zachetki":"m2050415","ocenka":"3","fio prepodavatelya":"Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
В.П.", "nomer zachetki": "m2050416", "ocenka": "4", "fio prepodavatelya": "Фомин
И.", "nomer tabelya prepodavatelya": 7},
H.E.", "nomer tabelya prepodavatelya": 6},
М.Д.", "nomer zachetki": "m2050413", "ocenka": "3", "fio prepodavatelya": "Фомин
M.", "nomer tabelya prepodavatelya": 7},
H.E.", "nomer tabelya prepodavatelya": 6},
₩.", "nomer tabelva prepodavatelva": 7},
M.", "nomer tabelya prepodavatelya": 7},
M.","nomer tabelya prepodavatelya": 7},
K.","nomer zachetki":"m20504112","ocenka":"4","fio prepodavatelya":"Фомин
M.","nomer tabelya prepodavatelya": 7},
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И.", "nomer tabelya prepodavatelya": 7},
A.", "nomer zachetki": "m20504115", "ocenka": "5", "fio_prepodavatelya": "Фомин
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И.", "nomer tabelya prepodavatelya": 7},
И.A.", "nomer zachetki": "m20504117", "ocenka": "5", "fio prepodavatelya": "Фомин
И.", "nomer tabelya prepodavatelya": 7},
Ю.Г.", "nomer zachetki": "m20504118", "ocenka": "4", "fio prepodavatelya": "Фомин
И.", "nomer tabelya prepodavatelya": 7},
А.Ю.", "nomer zachetki": "m20504119", "ocenka": "4", "fio prepodavatelya": "Фомин
M.", "nomer tabelya prepodavatelya": 7},
Л.Г.", "nomer zachetki": "m20504120", "ocenka": "4", "fio prepodavatelya": "Фомин
И.", "nomer tabelya prepodavatelya": 7}
insert into nenormalizirovannava (
 "nomer vedomosti", "nazvanie kursa lekciv",
 "fio prepodavatelya", "tabelniy nomer prepodavatelya",
values
M.","nomer tabelya prepodavatelya": 7},
И.", "nomer tabelya prepodavatelya": 7},
M.", "nomer tabelya prepodavatelya": 7},
Д.Д.", "nomer_zachetki": "m2051424", "ocenka": "3", fio prepodavatelya": "Горденко
M.B.", "nomer tabelya prepodavatelya": 4},
М.Л.", "nomer zachetki": "m2051421", "ocenka": "4", "fio prepodavatelya": "Фомин
M.", "nomer tabelya prepodavatelya": 7},
Д.", "nomer zachetki": "m2051426", "ocenka": "5", "fio prepodavatelya": "Горденко
O.B.", "nomer tabelya prepodavatelya": 4},
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```
И.", "nomer tabelya prepodavatelya": 7},
B.K.", "nomer zachetki": "m2051429", "ocenka": "4", "fio prepodavatelya": "Горденко
A.", "nomer zachetki": "m2051431", "ocenka": "5", "fio prepodavatelya": "Фомин
M.", "nomer tabelya prepodavatelya": 7},
Ф.К.", "nomer zachetki": "m2051433", "ocenka": "2", "fio prepodavatelya": "Фомин
И.", "nomer tabelya prepodavatelya": 7},
И.", "nomer tabelya prepodavatelya": 7}
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 "identifikator kursa lekciy", "nomer gruppi",
<del>values</del>
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M.", "nomer tabelya prepodavatelya": 2},
M.", "nomer tabelya prepodavatelya": 2},
E.П.", "nomer zachetki": "m2050414", "ocenka": "4", "fio prepodavatelya": "Аргунов
M.", "nomer tabelya prepodavatelya": 2},
M.", "nomer_tabelya_prepodavatelya": 2},
В.П.", "nomer zachetki": "m2050416", "ocenka": "5", "fio prepodavatelya": "Аргунов
M.", "nomer tabelya prepodavatelya": 2},
A.B.", "nomer zachetki": "m20504113", "ocenka": "4", "fio prepodavatelya": "Аргунов
M.","nomer tabelya prepodavatelya": 2}
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M.", "nomer tabelya prepodavatelya": 2}.
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M.", "nomer tabelya prepodavatelya": 2},
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M.", "nomer tabelya prepodavatelya": 2},
M.", "nomer tabelya prepodavatelya": 2},
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M.", "nomer tabelya prepodavatelya": 2},
A.","nomer zachetki":"m20504115","ocenka":"4","fio prepodavatelya":"Аргунов
M.", "nomer tabelya prepodavatelya": 2},
<del>C.B.","nomer zachetki":"m20504116","ocenka":"4","fio prepodavatelya":"Аргунов</del>
M.", "nomer tabelya prepodavatelya": 2},
И.A.", "nomer zachetki": "m20504117", "ocenka": "4", "fio prepodavatelya": "Аргунов
M.", "nomer tabelya prepodavatelya": 2},
M.", "nomer tabelya prepodavatelya": 2},
A.Ю.", "nomer zachetki": "m20504119", "ocenka": "3", "fio prepodavatelya": "Аргунов
M.", "nomer tabelya prepodavatelya": 2},
Л.Г.", "nomer zachetki": "m20504120", "ocenka": "2", "fio prepodavatelya": "Аргунов
M.","nomer_tabelya_prepodavatelya": 2}
1');
  "nomer vedomosti", "nazvanie kursa lekciy",
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M.", "nomer tabelya prepodavatelya": 2}.
M.E.", "nomer zachetki": "m2051423", "ocenka": "5", "fio_prepodavatelya": "Аргунов
M.", "nomer tabelya prepodavatelya": 2},
M.", "nomer tabelya prepodavatelya": 2},
{"fio studenta":"Ростропович
М.Л.", "nomer zachetki": "m2051421", "ocenka": "3", "fio prepodavatelya": "Аргунов
M.", "nomer tabelya prepodavatelya": 2},
M.", "nomer tabelya prepodavatelya": 2},
H.Г.", "nomer zachetki": "m2051428", "ocenka": "4", "fio prepodavatelya": "Аргунов
M.", "nomer tabelya prepodavatelya": 2},
B.K.", "nomer zachetki": "m2051429", "ocenka": "2", "fio prepodavatelya": "Климов
A.","nomer zachetki":"m2051431","ocenka":"4","fio prepodavatelya":"Аргунов
M.", "nomer tabelya prepodavatelya": 2},
Ф.К.", "nomer zachetki": "m2051433", "ocenka": "4", "fio prepodavatelya": "Аргунов
M.", "nomer tabelya prepodavatelya": 2},
P.", "nomer_zachetki":"m2051434", "ocenka":"2", "fio prepodavatelya":"Аргунов
M.", "nomer tabelya prepodavatelya": 2}
<del>1');</del>
<del>insert into nenormalizirovannava (</del>
 "nomer vedomosti", "nazvanie kursa lekciy",
 <del>(6, 'Средства внутреннего контроля', 555, 'М20-504', 'Бровкина Н.Е.', 6, '2021</del>
H.E.", "nomer tabelya prepodavatelya": 6},
Э.Т.", "nomer zachetki": "m2050417", "ocenka": "3", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
Д.", "nomer zachetki": "m2050411", "ocenka": "5", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
```

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Б.А.", "nomer zachetki": "m2050415", "ocenka": "5", "fio_prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
<del>{"fio studenta":"Клычков</del>
М.Д.", "nomer zachetki": "m2050413", "ocenka": "4", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
Я.", "nomer zachetki": "m20504111", "ocenka": "4", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
A.", "nomer zachetki": "m2050418", "ocenka": "5", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
K.", "nomer zachetki": "m2050419", "ocenka": "2", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
K.", "nomer zachetki": "m20504112", "ocenka": "4", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
H.E.", "nomer tabelya prepodavatelya": 6},
A.","nomer zachetki":"m20504115","ocenka":"5","fio prepodavatelya":"Бровкина
Ю.Г.", "nomer zachetki": "m20504118", "ocenka": "3", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
А.Ю.","nomer zachetki":"m20504119","ocenka":"4","fio prepodavatelya":"Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
```

```
<del>insert into nenormalizirovannava (</del>
values
С.Н.","nomer zachetki":"m2051422","ocenka":"4","fio prepodavatelya":"Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
M.E.", "nomer zachetki": "m2051423", "ocenka": "4", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
H.E.", "nomer tabelya prepodavatelya": 6},
М.Л.", "nomer zachetki": "m2051421", "ocenka": "4", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
H.E.", "nomer tabelya prepodavatelya": 6},
<del>{"fio studenta":"Тягунов</del>
H.E.", "nomer tabelya prepodavatelya": 6},
В.К.", "nomer zachetki": "m2051429", "ocenka": "4", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
A.", "nomer zachetki": "m2051431", "ocenka": "5", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
Ф.К.", "nomer zachetki": "m2051433", "ocenka": "4", "fio prepodavatelya": "Бровкина
H.E.", "nomer tabelya prepodavatelya": 6},
P.", "nomer zachetki": "m2051434", "ocenka": "3", "fio prepodavatelva": "Климов
```

```
Д.Э.","nomer zachetki":"m2050412","ocenka":"2","fio prepodavatelva":"Алейникова
M.H.", "nomer tabelya prepodavatelya": 8},
<del>Э.Т.","nomer zachetki":"m2050417","ocenka":"3","fio prepodavatelya":"Алейникова</del>
M.Ю.","nomer tabelya prepodavatelya"։ 8}.
Д.","nomer zachetki":"m2050411","ocenka":"2","fio prepodavatelya":"Алейникова
M.Ю.","nomer tabelya prepodavatelya": 8},
<del>E.П.","nomer zachetki":"m2050414","ocenka":"3","fio prepodavatelva":"Алейникова</del>
М.Ю.","nomer tabelya prepodavatelya": 8},
М.Ю.", "nomer tabelya prepodavatelya": 8},
M.W.", "nomer tabelya prepodavatelya": 8},
M.W.", "nomer tabelya prepodavatelya": 8},
<del>{"fio studenta":"Клычков</del>
M.H.", "nomer tabelya prepodavatelya": 8},
B.B.", "nomer tabelya prepodavatelya": 3},
Я.", "nomer zachetki": "m20504111", "ocenka": "4", "fio prepodavatelya": "Алейникова
M.W.", "nomer tabelya prepodavatelya": 8},
<del>A.","nomer zachetki":"m2050418","ocenka":"5","fio prepodavatelya":"Алейникова</del>
M.W.", "nomer tabelya prepodavatelya": 8},
M.H.", "nomer tabelya prepodavatelya": 8},
M<mark>.","nomer zachetki":"m20504114","ocenka":"2","fio prepodavatelya":"Алейникова</mark>
M.W.", "nomer tabelya prepodavatelya": 8},
<del>A.","nomer zachetki":"m20504115","ocenka":"5","fio prepodavatelya":"Алейникова</del>
M.H.", "nomer tabelya prepodavatelya": 8},
M.H.", "nomer tabelya prepodavatelya": 8},
```

```
M.W.", "nomer tabelya prepodavatelya": 8},
M.H.", "nomer tabelya prepodavatelya": 8}
insert into nenormalizirovannava (
 "fio prepodavatelya", "tabelniy nomer prepodavatelya",
values
M.W.", "nomer tabelya prepodavatelya": 8},
Д.Д.", "nomer zachetki": "m2051424", "ocenka": "3", "fio prepodavatelya": "Алейникова
М.Л.", "nomer zachetki": "m2051421", "ocenka": "5", "fio prepodavatelya": "Алейникова
M.W.", "nomer tabelya prepodavatelya": 8},
M.Ю.","nomer tabelya prepodavatelya"։ 8},
H.F.", "nomer zachetki": "m2051428", "ocenka": "2", "fio prepodavatelya": "Алейникова
B.K.", "nomer zachetki": "m2051429", "ocenka": "4", "fio prepodavatelya": "Алейникова
M.W.", "nomer tabelya prepodavatelya": 8},
M.H.", "nomer tabelya prepodavatelya": 8},
Ф.К.", "nomer zachetki": "m2051433", "ocenka": "5", "fio_prepodavatelya": "Алейникова
M.H.", "nomer tabelya prepodavatelya": 8},
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```
M.W.", "nomer tabelya prepodavatelya": 8}
1');
  "identifikator kursa lekciy", "nomer gruppi",
values
<del>Q.Э.","nomer zachetki":"m2050412","ocenka":"2","fio prepodavatelya":"Климов</del>
B.B.", "nomer tabelya prepodavatelya": 3},
<del>Э.Т.","nomer zachetki":"m2050417","ocenka":"3","fio prepodavatelya":"Климов</del>
B.B.", "nomer tabelya prepodavatelya": 3},
B.B.", "nomer tabelya prepodavatelya": 3},
Б.А.", "nomer zachetki": "m2050415", "ocenka": "4", "fio prepodavatelya": "Климов
В.П.","nomer zachetki":"m2050416","ocenka":"5","fio prepodavatelya":"Климов
B.B.", "nomer tabelya prepodavatelya": 3},
A.B.", "nomer zachetki": "m20504113", "ocenka": "5", "fio prepodavatelya": "Климов
B.B.", "nomer tabelya prepodavatelya": 3},
<del>{"fio studenta":"Клычков</del>
М.Д.", "nomer zachetki": "m2050413", "ocenka": "5", "fio prepodavatelya": "Климов
B.B.", "nomer tabelya prepodavatelya": 3},
Я.", "nomer zachetki": "m20504111", "ocenka": "5", "fio prepodavatelya": "Климов
B.B.", "nomer tabelya prepodavatelya": 3},
A.", "nomer zachetki": "m2050418", "ocenka": "5", "fio prepodavatelya": "Климов
K.", "nomer zachetki": "m2050419", "ocenka": "3", "fio prepodavatelya": "Климов
B.B.", "nomer tabelva prepodavatelva": 3},
```

```
B.B.", "nomer tabelya prepodavatelya": 3},
M.", "nomer zachetki": "m20504114", "ocenka": "3", "fio prepodavatelya": "Климов
A.", "nomer zachetki": "m20504115", "ocenka": "4", "fio prepodavatelya": "Климов
B.B.", "nomer tabelya prepodavatelya": 3},
B.B.", "nomer tabelya prepodavatelya": 3},
B.B.", "nomer tabelya prepodavatelya": 3},
A.Ю.", "nomer zachetki": "m20504119", "ocenka": "4", "fio prepodavatelya": "Климов
B.B.", "nomer tabelya prepodavatelya": 3},
Л.Г.", "nomer zachetki": "m20504120", "ocenka": "4", "fio prepodavatelya": "Климов
B.B.", "nomer tabelya prepodavatelya": 3}
<del>1');</del>
insert into nenormalizirovannava (
 "fio prepodavatelya", "tabelniy nomer prepodavatelya",
<del>values</del>
 (81, 'БД-ОБ', 999, 'M20-514', 'Климов В.В.', 3, '2021-11-28', 'Г
B.B.", "nomer tabelya prepodavatelya": 3},
B.B.", "nomer tabelva prepodavatelva": 3},
Д.Д.", "nomer zachetki": "m2051424", "ocenka": "3", "fio prepodavatelya": "Климов
B.B.", "nomer tabelya prepodavatelya": 3},
М.Л.", "nomer zachetki": "m2051421", "ocenka": "4", "fio prepodavatelya": "Климов
B.B.", "nomer tabelya prepodavatelya": 3},
Д.", "nomer zachetki": "m2051426", "ocenka": "3", "fio prepodavatelya": "Климов
B.B.", "nomer tabelya prepodavatelya": 3},
```

Приложение 2

```
"nomer gruppi",
group by
  "nomer gruppi",
```

```
tmp."identifikator kursa lekciv",
tmp."fio prepodavatelya",
tmp.arr ->> 'nomer tabelya prepodavatelya' as "nomer tabelya prepodavatelya"
   <u>nenormalizirovannava</u>
"nomer gruppi",
"fio prepodavatelya",
```

Приложение 3

```
create table kontrolnie as (
  "nomer gruppi",
  <u>nenormalizirovannava</u>
group by
```

```
<del>create table svod as (</del>
     from
      — nenormalizirovannava
   tmp.arr ->> 'fio prepodavatelya' as "fio prepodavatelya".
      -nenormalizirovannaya
  "fio prepodavatelya",
kontrolnie."nomer vedomosti",
 kontrolnie."identifikator kursa lekciy",
napravlenie."nazvanie kursa lekciy",
 kontrolnie."nomer gruppi",
 kontrolnie."tabelniy nomer prepodavatelya",
 prepodavatel. "fio prepodavatelya",
```

```
kontrolnie,
prepodavatel,
prepodavatel tabel
and svod."nomer vedomosti" = kontrolnie."nomer vedomosti"
group by
 napravlenie."nazvanie kursa lekciy",
```