

Учреждение образования
«БЕЛОРУССКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
ИНФОРМАТИКИ И РАДИОЭЛЕКТРОНИКИ»

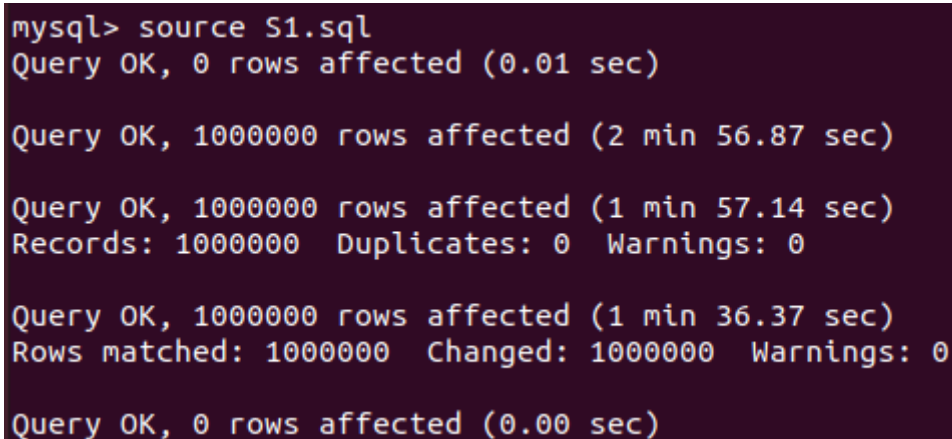
Отчет по лабораторной работе №5
по дисциплине «Модели данных и системы управления базами данных»

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Задание 1

```
TRUNCATE TABLE students;
INSERT INTO students(name1_id,name2_id,name3_id,personal_id)
SELECT
    FLOOR(RAND()*((SELECT MAX(id) FROM name1)-(SELECT MIN(id) FROM name1))+
    (SELECT MIN(id) FROM name1)),
    FLOOR(RAND()*((SELECT MAX(id) FROM name2)-(SELECT MIN(id) FROM name2))+
    (SELECT MIN(id) FROM name2)),
    FLOOR(RAND()*((SELECT MAX(id) FROM name3)-(SELECT MIN(id) FROM name3))+
    (SELECT MIN(id) FROM name3)),
    ROW_NUMBER() OVER()
FROM (SELECT * FROM name1 LIMIT 1000) as t1,(SELECT * FROM name1 LIMIT 1000)
as t2;
```



```
mysql> source S1.sql
Query OK, 0 rows affected (0.01 sec)

Query OK, 1000000 rows affected (2 min 56.87 sec)

Query OK, 1000000 rows affected (1 min 57.14 sec)
Records: 1000000  Duplicates: 0  Warnings: 0

Query OK, 1000000 rows affected (1 min 36.37 sec)
Rows matched: 1000000  Changed: 1000000  Warnings: 0

Query OK, 0 rows affected (0.00 sec)
```

Задание 2

```
DROP TABLE IF EXISTS t1;
CREATE TABLE t1 (
    id SMALLINT AUTO_INCREMENT PRIMARY KEY,
    name1 VARCHAR(50)
);
INSERT INTO t1(name1) VALUES ('10-летия Октября, улица'),(' 1905 Года, улица'),('
Абельмановская Застава, площадь'),(' Абельмановская улица')

TRUNCATE TABLE sttype;
INSERT INTO sttype(name)
SELECT DISTINCT
CASE
WHEN INSTR(name1,',')>0 THEN SUBSTRING(name1,POSITION(',') IN name1)+1)
ELSE SUBSTRING(name1,CHAR_LENGTH(name1)-LOCATE(' ',REVERSE(name1))+1 )
END
FROM t1;

TRUNCATE TABLE street;
```

```

INSERT INTO street(name,type_id)
SELECT
TRIM(CASE
WHEN INSTR(name1,',') >0 THEN LEFT(name1,POSITION(',') IN name1)-1)
ELSE LEFT(name1,CHAR_LENGTH(name1)-LOCATE(' ',REVERSE(name1))+1 )
END)
,sttype.id
FROM t1,sttype
WHERE
CASE
WHEN INSTR(name1,',')>0 THEN SUBSTRING(name1,POSITION(',') IN name1)+1)
ELSE SUBSTRING(name1,CHAR_LENGTH(name1)-LOCATE(' ',REVERSE(name1))+1 )
END = sttype.name ;

```

```

DROP TABLE t1;

```

```

mysql> SET FOREIGN_KEY_CHECKS=0;
Query OK, 0 rows affected (0.00 sec)

mysql> source street.sql
Query OK, 0 rows affected (0.03 sec)

Query OK, 0 rows affected (0.03 sec)

Query OK, 1079 rows affected (0.04 sec)
Records: 1079  Duplicates: 0  Warnings: 0

mysql> source S2.sql
Query OK, 0 rows affected (0.05 sec)

Query OK, 10 rows affected (0.02 sec)
Records: 10  Duplicates: 0  Warnings: 0

Query OK, 0 rows affected (0.05 sec)

Query OK, 1079 rows affected (0.05 sec)
Records: 1079  Duplicates: 0  Warnings: 0

Query OK, 0 rows affected (0.02 sec)

```

Задание 3

```

TRUNCATE TABLE address;

```

```

INSERT INTO address(county_id,city_id,region_id,st_id,sttype,
house,corp,flat,zipcode)

```

```

SELECT
FLOOR(RAND()*((SELECT MAX(id) FROM country)-(SELECT MIN(id) FROM
country)))+(SELECT MIN(id) FROM country)),

```

```

        FLOOR(RAND()*((SELECT MAX(id) FROM city)-(SELECT MIN(id) FROM city))+
(SELECT MIN(id) FROM city)),
        FLOOR(RAND()*((SELECT MAX(id) FROM region)-(SELECT MIN(id) FROM
region)))+(SELECT MIN(id) FROM region)),
        FLOOR(RAND()*((SELECT MAX(id) FROM street)-(SELECT MIN(id) FROM street))
+(SELECT MIN(id) FROM street)),
        FLOOR(RAND()*((SELECT MAX(id) FROM sttype)-(SELECT MIN(id) FROM
sttype)))+(SELECT MIN(id) FROM sttype)),
        CONVERT(FLOOR(RAND()*300),CHAR),
        FLOOR(RAND()*10),
        FLOOR(RAND()*300),
        FLOOR(RAND()*100000)
FROM students ;

```

```

mysql> source S3.sql
Query OK, 0 rows affected (0.24 sec)

Query OK, 10000 rows affected (1.28 sec)
Records: 10000 Duplicates: 0 Warnings: 0

```

Задание 4

```

TRUNCATE TABLE mark;
SET @start = UNIX_TIMESTAMP('2010-01-01');
SET @end = UNIX_TIMESTAMP('2020-01-01');
INSERT INTO mark(student_id,subj_id,mark_id,teacher_id,pass_id,date)
SELECT
        FLOOR(RAND()*((SELECT MAX(id) FROM students)-(SELECT MIN(id) FROM students))
+(SELECT MIN(id) FROM students)),
        FLOOR(RAND()*((SELECT MAX(id) FROM subject)-(SELECT MIN(id) FROM subject))+
(SELECT MIN(id) FROM subject)),
        FLOOR(RAND()*((SELECT MAX(id) FROM mark_value)-(SELECT MIN(id) FROM
mark_value)))+(SELECT MIN(id) FROM mark_value)),
        FLOOR(RAND()*((SELECT MAX(id) FROM teacher)-(SELECT MIN(id) FROM teacher))+
(SELECT MIN(id) FROM teacher)),
        FLOOR(RAND()*((SELECT MAX(id) FROM pass_type)-(SELECT MIN(id) FROM
pass_type)))+(SELECT MIN(id) FROM pass_type)),
DATE(FROM_UNIXTIME(RAND() * (@end - @start) + @start)),
FROM students;

```

```

mysql> source S4.sql
Query OK, 0 rows affected (0.39 sec)

Query OK, 1000000 rows affected (46.12 sec)
Records: 1000000 Duplicates: 0 Warnings: 0

```

Задание 5

```

TRUNCATE TABLE chair;
INSERT INTO chair(name) VALUES
('Высшей математики'),('Вычислительных методов и программирования'),('Гуманитарных
дисциплин'),('Защиты информации'),('Инженерной и компьютерной графики')

```

```

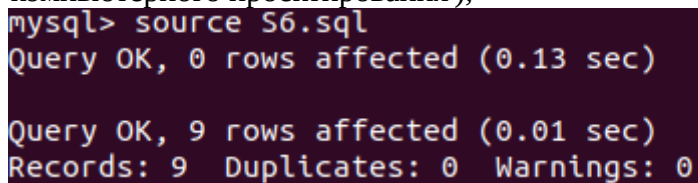
mysql> source S5.sql
Query OK, 0 rows affected (0.13 sec)

Query OK, 32 rows affected (0.02 sec)
Records: 32 Duplicates: 0 Warnings: 0

```

Задание 6

```
TRUNCATE TABLE faculty;  
INSERT INTO faculty(sname,name) VALUES  
( 'ФКП','Факультет компьютерного проектирования'),
```

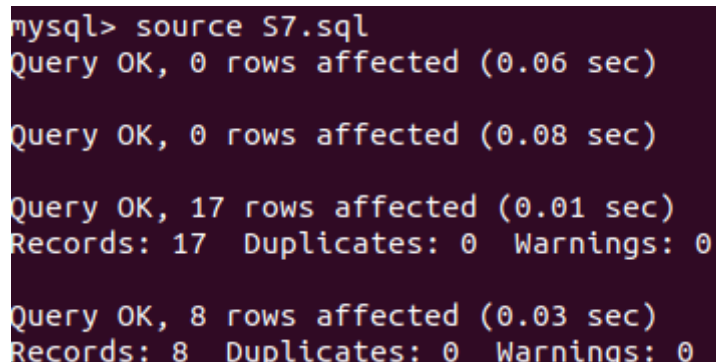


```
mysql> source S6.sql  
Query OK, 0 rows affected (0.13 sec)  
  
Query OK, 9 rows affected (0.01 sec)  
Records: 9 Duplicates: 0 Warnings: 0
```

Задание 7

```
DROP TABLE IF EXISTS t_type;  
CREATE TABLE t_type(  
    id TINYINT AUTO_INCREMENT PRIMARY KEY,  
    name VARCHAR(80)  
);  
INSERT INTO t_type(name) VALUES ( ' бульвар'),(' воинская часть'),(' исправительное  
учреждение от'),(' кольцо'),(' набережная'),(' парк'),(' переулок'),(' площадь'),(' проезд'),('  
проспект'),(' следственные изолятор'),(' станция'),(' территория'),(' тракт'),(' тупик'),(' улица'),  
(" шоссе");
```

```
INSERT IGNORE INTO sttype(name)  
SELECT name FROM t_type ;
```



```
mysql> source S7.sql  
Query OK, 0 rows affected (0.06 sec)  
  
Query OK, 0 rows affected (0.08 sec)  
  
Query OK, 17 rows affected (0.01 sec)  
Records: 17 Duplicates: 0 Warnings: 0  
  
Query OK, 8 rows affected (0.03 sec)  
Records: 8 Duplicates: 0 Warnings: 0
```

Задание 8

```
TRUNCATE TABLE teacher;  
INSERT INTO teacher(name1_id,name2_id,name3_id,personal_id)  
SELECT  
    FLOOR(RAND()*((SELECT MAX(id) FROM name1)-(SELECT MIN(id) FROM name1))+  
(SELECT MIN(id) FROM name1)),
```

```
FLOOR(RAND()*((SELECT MAX(id) FROM name2)-(SELECT MIN(id) FROM name2))+
(SELECT MIN(id) FROM name2)),
FLOOR(RAND()*((SELECT MAX(id) FROM name3)-(SELECT MIN(id) FROM name3))+
(SELECT MIN(id) FROM name3)),
ROW_NUMBER() OVER()
FROM students LIMIT 200;
```

```
TRUNCATE TABLE pass_type;
INSERT INTO pass_type(name,sname)
SELECT
    CONCAT('pass',CONVERT(id,CHAR)),
    CONCAT('p',CONVERT(id,CHAR))
FROM students LIMIT 20;
```

```
TRUNCATE TABLE subject;
INSERT INTO subject(name,sname)
SELECT
    CONCAT('subj',CONVERT(id,CHAR)),
    CONCAT('s',CONVERT(id,CHAR))
FROM students LIMIT 200;
```

```
TRUNCATE TABLE mark_value;
INSERT INTO mark_value(id,name,sname)
SELECT
    id,
    CONCAT('mark',CONVERT(id,CHAR)),
    CONCAT('m',CONVERT(id,CHAR))
FROM country LIMIT 20;
```

```
TRUNCATE TABLE authority;
INSERT INTO authority(name)
SELECT

    CONCAT('authority',CONVERT(id,CHAR))
FROM country LIMIT 20;
```

```
TRUNCATE TABLE sex;
INSERT INTO sex(name,sname) VALUES
    ('мужской','м'),
    ('женский','ж');
```

```
TRUNCATE TABLE speciality;
INSERT INTO speciality(name,sname)
SELECT

    CONCAT('spec',CONVERT(id,CHAR)),
    CONCAT('s',CONVERT(id,CHAR))
FROM country LIMIT 20;
```

```
mysql> source S8.sql
Query OK, 0 rows affected (0.18 sec)

Query OK, 200 rows affected (0.04 sec)
Records: 200  Duplicates: 0  Warnings: 0

Query OK, 0 rows affected (0.12 sec)

Query OK, 20 rows affected (0.02 sec)
Records: 20  Duplicates: 0  Warnings: 0

Query OK, 0 rows affected (0.06 sec)

Query OK, 200 rows affected (0.03 sec)
Records: 200  Duplicates: 0  Warnings: 0

Query OK, 0 rows affected (0.11 sec)

Query OK, 20 rows affected (0.02 sec)
Records: 20  Duplicates: 0  Warnings: 0

Query OK, 0 rows affected (0.12 sec)

Query OK, 20 rows affected (0.02 sec)
Records: 20  Duplicates: 0  Warnings: 0

Query OK, 0 rows affected (0.26 sec)

Query OK, 2 rows affected (0.02 sec)
Records: 2  Duplicates: 0  Warnings: 0

Query OK, 0 rows affected (0.17 sec)

Query OK, 20 rows affected (0.02 sec)
Records: 20  Duplicates: 0  Warnings: 0
```

Задание 9

```
TRUNCATE TABLE personal_data;
SET @start = UNIX_TIMESTAMP('2001-01-01');
SET @end = UNIX_TIMESTAMP('2024-01-01');
INSERT INTO personal_data ( `passport_s`, `pnumber`, `issuedate`, `expiredate`, `birthday`,
`sex_id`, `univer_id`, `faculty_id`, `spec_id`
, `addr_id1`, `addr_id2`, `addr_id3`, `auth_id`, `chair_id`, `ldate`)
SELECT
    "KB",
    FLOOR(10000000*RAND()),
    DATE(FROM_UNIXTIME(RAND() * (@end - @start) + @start)),
    DATE(FROM_UNIXTIME(RAND() * (@end - @start) + @start)),
    DATE(FROM_UNIXTIME(RAND() * (@end - @start) + @start)),
    FLOOR(RAND()*((SELECT MAX(id) FROM sex)-(SELECT MIN(id) FROM sex))+(SELECT MIN(id) FROM sex)),
    FLOOR(RAND()*((SELECT MAX(id) FROM univer)-(SELECT MIN(id) FROM univer))+(SELECT MIN(id) FROM univer)),
    FLOOR(RAND()*((SELECT MAX(id) FROM faculty)-(SELECT MIN(id) FROM faculty))+(SELECT MIN(id) FROM faculty)),
    FLOOR(RAND()*((SELECT MAX(id) FROM speciality)-(SELECT MIN(id) FROM speciality))+(SELECT MIN(id) FROM speciality)),
    FLOOR(RAND()*((SELECT MAX(id) FROM address)-(SELECT MIN(id) FROM address))+(SELECT MIN(id) FROM address)),
    FLOOR(RAND()*((SELECT MAX(id) FROM address)-(SELECT MIN(id) FROM address))+(SELECT MIN(id) FROM address)),
    FLOOR(RAND()*((SELECT MAX(id) FROM address)-(SELECT MIN(id) FROM address))+(SELECT MIN(id) FROM address)),
    FLOOR(RAND()*((SELECT MAX(id) FROM authority)-(SELECT MIN(id) FROM authority))+(SELECT MIN(id) FROM authority)),
    FLOOR(RAND()*((SELECT MAX(id) FROM chair)-(SELECT MIN(id) FROM chair))+(SELECT MIN(id) FROM chair)),
    DATE(FROM_UNIXTIME(RAND() * (@end - @start) + @start))
FROM students;
```

```
mysql> source S9.sql
Query OK, 0 rows affected (0.21 sec)

Query OK, 1000000 rows affected (1 min 14.88 sec)
Records: 1000000 Duplicates: 0 Warnings: 0
```