

МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ  
ФГБОУ ВО АЛТАЙСКИЙ ГОСУДАСТВЕННЫЙ УНИВЕРСИТЕТ

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## Агрегатные функции

(Отчёт по индивидуальному заданию по курсу «БАЗЫ ДАННЫХ»)

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«\_\_\_» \_\_\_\_\_ 2021 г.

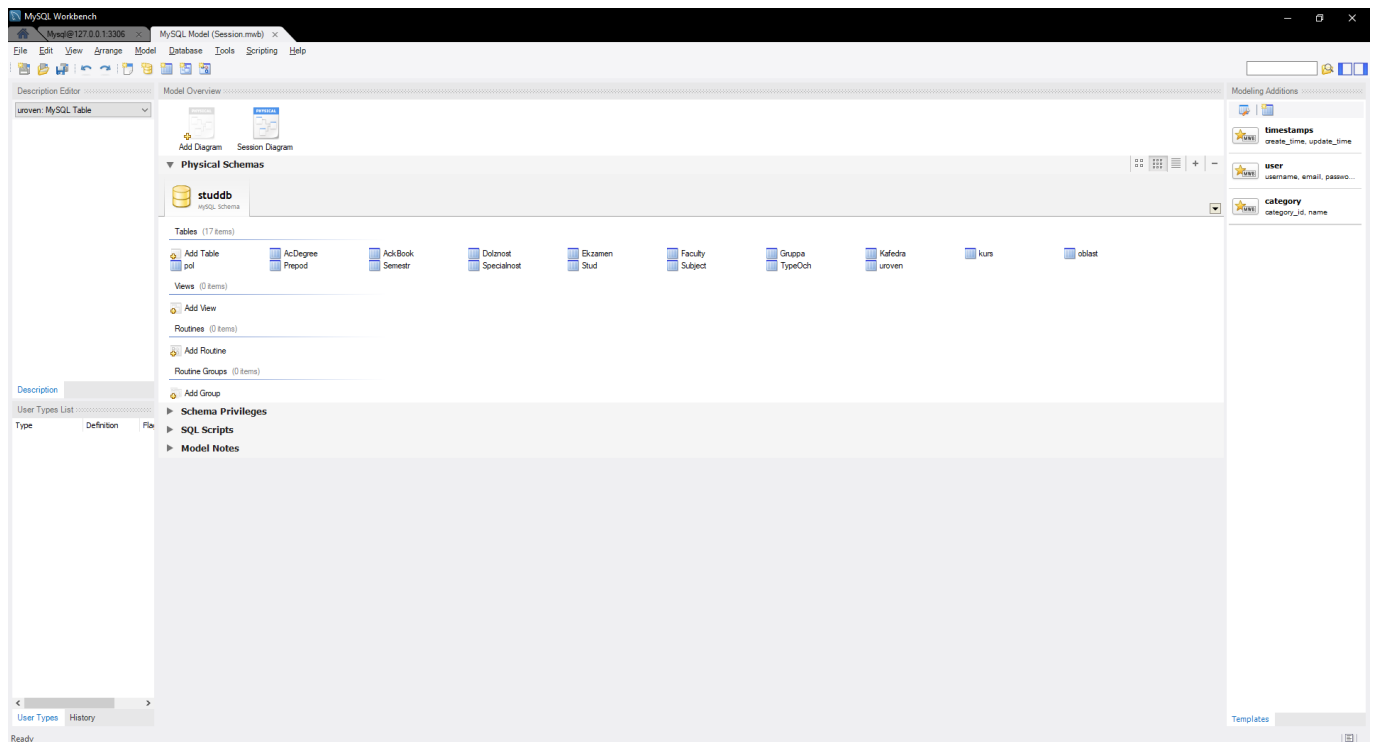
Барнаул, 2021 г.

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# 1 Информация о создании БД

```
CREATE SCHEMA IF NOT EXISTS 'studdb' DEFAULT CHARACTER SET utf8
```



## 2 Информация о создании таблиц

### 2.1 AcDegree

```
CREATE TABLE IF NOT EXISTS 'studdb'.'AcDegree' (  
  'AcDegree_ID' INT NOT NULL,  
  'fk_uroven_ID' VARCHAR(1) NULL,  
  'fk_oblast_ID' INT NULL,  
  'AcDegree' VARCHAR(50) NULL,  
  'AcDegreeShort' VARCHAR(10) NULL,  
  PRIMARY KEY ('AcDegree_ID'),  
  INDEX 'fk_oblast_ID_idx' ('fk_oblast_ID' ASC) VISIBLE,  
  INDEX 'fk_uroven_ID_idx' ('fk_uroven_ID' ASC) VISIBLE,  
  CONSTRAINT 'fk_uroven_ID'  
    FOREIGN KEY ('fk_uroven_ID')  
      REFERENCES 'studdb'.'uroven' ('uroven_id')  
      ON DELETE NO ACTION  
      ON UPDATE NO ACTION,  
  CONSTRAINT 'fk_oblast_ID'  
    FOREIGN KEY ('fk_oblast_ID')  
      REFERENCES 'studdb'.'oblast' ('oblast_ID')  
      ON DELETE NO ACTION  
      ON UPDATE NO ACTION)  
ENGINE = InnoDB
```

AcDegree - Table

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
AcDegree_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_uroven_ID	VARCHAR(1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_oblast_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AcDegree	VARCHAR(50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AcDegreeShort	VARCHAR(10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:  Data Type:

Charset/Collation:  Default:

Comments:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns | Indexes | Foreign Keys | Triggers | Partitioning | Options | Inserts | Privileges

## 2.2 AckBook

```
CREATE TABLE IF NOT EXISTS 'studdb'.'AckBook' (
  'AckBook_ID' INT NOT NULL,
  'fk_Ekzamen_ID' INT NULL,
  'fk_Type0ch_ID' INT NULL,
  'fk_Stud_ID' INT NULL,
  'DataRec' DATE NULL,
  PRIMARY KEY ('AckBook_ID'),
  INDEX 'fk_Ekzamen_ID_idx' ('fk_Ekzamen_ID' ASC) VISIBLE,
  INDEX 'fk_Type0ch_ID_idx' ('fk_Type0ch_ID' ASC) VISIBLE,
  INDEX '1_idx' ('fk_Stud_ID' ASC) VISIBLE,
  CONSTRAINT 'fk_Ekzamen_ID'
    FOREIGN KEY ('fk_Ekzamen_ID')
      REFERENCES 'studdb'.'Ekzamen' ('Ekzamen_ID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT 'fk_Type0ch_ID'
    FOREIGN KEY ('fk_Type0ch_ID')
      REFERENCES 'studdb'.'Type0ch' ('Type0ch_ID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT 'fk_Stud_ID'
    FOREIGN KEY ('fk_Stud_ID')
      REFERENCES 'studdb'.'Stud' ('Stud_ID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB
```

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
AckBook_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Ekzamen_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Type0ch_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Stud_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DataRec	DATE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:  Data Type:

Charset/Collation:  Default:

Comments:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns | Indexes | Foreign Keys | Triggers | Partitioning | Options | Inserts | Privileges

## 2.3 Dolznost

```
CREATE TABLE IF NOT EXISTS 'studdb'.'Dolznost' (
    'Dolznost_ID' INT NOT NULL,
    'Dolznost' VARCHAR(20) NULL,
    PRIMARY KEY ('Dolznost_ID'))
ENGINE = InnoDB
```

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Dolznost_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dolznost	VARCHAR(20)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:  Data Type:

Charset/Collation:  Default:

Comments:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns | Indexes | Foreign Keys | Triggers | Partitioning | Options | Inserts | Privileges

## 2.4 Ekzamen

```
CREATE TABLE IF NOT EXISTS 'studdb'.'Ekzamen' (
    'Ekzamen_ID' INT NOT NULL,
    'fk_Specialnost_ID' INT NULL,
    'fk_Semestr_ID' INT NULL,
    'fk_Subject_ID' INT NULL,
    'fk_Prepod_ID' INT NULL,
    PRIMARY KEY ('Ekzamen_ID'),
    INDEX 'fk_Specialnost_ID_idx' ('fk_Specialnost_ID' ASC) VISIBLE,
    INDEX 'fk_Semestr_ID_idx' ('fk_Semestr_ID' ASC) VISIBLE,
    INDEX 'fk_Subject_ID_idx' ('fk_Subject_ID' ASC) VISIBLE,
    INDEX 'fk_Prepod_ID_idx' ('fk_Prepod_ID' ASC) VISIBLE,
    CONSTRAINT 'fk_Specialnost_ID'
```

```

FOREIGN KEY ('fk_Specialnost_ID')
REFERENCES 'studdb'.'Specialnost' ('Specialnost_ID')
ON DELETE NO ACTION
ON UPDATE NO ACTION,
CONSTRAINT 'fk_Semestr_ID'
FOREIGN KEY ('fk_Semestr_ID')
REFERENCES 'studdb'.'Semestr' ('Semestr_ID')
ON DELETE NO ACTION
ON UPDATE NO ACTION,
CONSTRAINT 'fk_Subject_ID'
FOREIGN KEY ('fk_Subject_ID')
REFERENCES 'studdb'.'Subject' ('Subject_ID')
ON DELETE NO ACTION
ON UPDATE NO ACTION,
CONSTRAINT 'fk_Prepod_ID'
FOREIGN KEY ('fk_Prepod_ID')
REFERENCES 'studdb'.'Prepod' ('Prepod_ID')
ON DELETE NO ACTION
ON UPDATE NO ACTION)
ENGINE = InnoDB

```

Ekzamen - Table

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Ekzamen_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Specialnost_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Semestr_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Subject_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Prepod_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:  Data Type:

CharSet/Collation:  Default:

Comments:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns Indexes ForeignKeys Triggers Partitioning Options Inserts Privileges

## 2.5 Faculty

```

CREATE TABLE IF NOT EXISTS 'studdb'.'Faculty' (
  'Faculty_ID' INT NOT NULL,
  'Faculty' VARCHAR(40) NULL,
  'FacShort' VARCHAR(6) NULL,
  PRIMARY KEY ('Faculty_ID'))
ENGINE = InnoDB

```

Faculty - Table x

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Faculty_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Faculty	VARCHAR(40)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FacShort	VARCHAR(6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored ☐ Primary Key ☐ Not Null ☐ Unique ☐ Binary ☐ Unsigned ☐ Zero Fill ☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

## 2.6 Gruppo

```
CREATE TABLE IF NOT EXISTS 'studdb'.'Gruppa' (
  'Gruppa_ID' INT NOT NULL,
  'fk_Faculty_ID' INT NULL,
  'fk_kurs_ID' INT NULL,
  'fk_Specialnost_ID' INT NULL,
  'Gruppa' VARCHAR(10) NULL,
  PRIMARY KEY ('Gruppa_ID'),
  INDEX 'fk_Faculty_ID_idx' ('fk_Faculty_ID' ASC) VISIBLE,
  INDEX 'fk_kurs_ID_idx' ('fk_kurs_ID' ASC) VISIBLE,
  INDEX 'fk_Specialnost_ID_idx' ('fk_Specialnost_ID' ASC) VISIBLE,
  CONSTRAINT 'fk_Faculty_ID'
    FOREIGN KEY ('fk_Faculty_ID')
      REFERENCES 'studdb'.'Faculty' ('Faculty_ID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT 'fk_kurs_ID'
    FOREIGN KEY ('fk_kurs_ID')
      REFERENCES 'studdb'.'kurs' ('kurs_ID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT 'fk_Specialnost_ID'
    FOREIGN KEY ('fk_Specialnost_ID')
      REFERENCES 'studdb'.'Specialnost' ('Specialnost_ID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB
```

Gruppa - Table

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Gruppa_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Faculty_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_kurs_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Specialnost_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Gruppa	VARCHAR(10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

## 2.7 Kafedra

```
CREATE TABLE IF NOT EXISTS 'studdb'.'Kafedra' (
  'Kafedra_ID' INT NOT NULL,
  'Kafedra' VARCHAR(50) NULL,
  'KafedraShort' VARCHAR(10) NULL,
  PRIMARY KEY ('Kafedra_ID'))
ENGINE = InnoDB
```

Kafedra - Table

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Kafedra_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Kafedra	VARCHAR(50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
KafedraShort	VARCHAR(10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

## 2.8 kurs

```
CREATE TABLE IF NOT EXISTS 'studdb'.'kurs' (
  'kurs_ID' INT NOT NULL,
  PRIMARY KEY ('kurs_ID'))
ENGINE = InnoDB
```



kurs - Table x

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
kurs_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored  
☐ Primary Key ☐ Not Null ☐ Unique  
☐ Binary ☐ Unsigned ☐ Zero Fill  
☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

## 2.9 oblast

```
CREATE TABLE IF NOT EXISTS 'studdb'.'oblast' (
  'oblast_ID' INT NOT NULL,
  'oblast' VARCHAR(30) NULL,
  PRIMARY KEY ('oblast_ID'))
ENGINE = InnoDB
```

oblast - Table x

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
oblast_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
oblast	VARCHAR(30)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored  
☐ Primary Key ☐ Not Null ☐ Unique  
☐ Binary ☐ Unsigned ☐ Zero Fill  
☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

## 2.10 pol

```
CREATE TABLE IF NOT EXISTS 'studdb'.'pol' (
  'pol_id' INT NOT NULL,
  'pol' VARCHAR(7) NULL,
  'pol_short' VARCHAR(1) NULL,
  PRIMARY KEY ('pol_id'))
ENGINE = InnoDB
```

pol - Table x

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
pol_id	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
pol	VARCHAR(7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
pol_short	VARCHAR(1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

## 2.11 Prepod

```
CREATE TABLE IF NOT EXISTS 'studdb'.'Prepod' (
  'Prepod_ID' INT NOT NULL,
  'fk_Dolznost_ID' INT NULL,
  'fk_AcDegree_ID' INT NULL,
  'fk_Kafedra_ID' INT NULL,
  'LName' VARCHAR(50) NULL,
  'FName' VARCHAR(50) NULL,
  'MName' VARCHAR(50) NULL,
  'BirthDay' DATE NULL,
  PRIMARY KEY ('Prepod_ID'),
  INDEX 'fk_Dolznost_ID_idx' ('fk_Dolznost_ID' ASC) VISIBLE,
  INDEX 'fk_AcDegree_ID_idx' ('fk_AcDegree_ID' ASC) VISIBLE,
  INDEX 'fk_Kafedra_ID_idx' ('fk_Kafedra_ID' ASC) VISIBLE,
  CONSTRAINT 'fk_Dolznost_ID'
    FOREIGN KEY ('fk_Dolznost_ID')
      REFERENCES 'studdb'.'Dolznost' ('Dolznost_ID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT 'fk_AcDegree_ID'
    FOREIGN KEY ('fk_AcDegree_ID')
      REFERENCES 'studdb'.'AcDegree' ('AcDegree_ID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT 'fk_Kafedra_ID'
    FOREIGN KEY ('fk_Kafedra_ID')
      REFERENCES 'studdb'.'Kafedra' ('Kafedra_ID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB
```

Prepod - Table

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Prepod_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Dolnost_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_AcDegree_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Kafedra_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LName	VARCHAR(50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
FName	VARCHAR(50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MName	VARCHAR(50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BirthDay	DATE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

## 2.12 Semestr

```
CREATE TABLE IF NOT EXISTS 'studdb'.'Semestr' (
  'Semestr_ID' INT NOT NULL,
  'fk_kurs_ID' INT NULL,
  'Semestr' INT NULL,
  PRIMARY KEY ('Semestr_ID'),
  INDEX 'fk_kurs_ID_idx' ('fk_kurs_ID' ASC) VISIBLE,
  CONSTRAINT 'fk_kurs_ID'
    FOREIGN KEY ('fk_kurs_ID')
      REFERENCES 'studdb'.'kurs' ('kurs_ID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB
```

Semestr - Table

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Semestr_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_kurs_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Semestr	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

## 2.13 Specialnost

```
CREATE TABLE IF NOT EXISTS 'studdb'.'Specialnost' (
  'Specialnost_ID' INT NOT NULL,
  'Specialnost' VARCHAR(100) NULL,
  'CodOCSO' VARCHAR(10) NULL,
  PRIMARY KEY ('Specialnost_ID'))
ENGINE = InnoDB
```

Specialnost - Table

Table Name: Specialnost Schema: studdb

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Specialnost_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Specialnost	VARCHAR(100)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CodOCSO	VARCHAR(10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns | Indexes | Foreign Keys | Triggers | Partitioning | Options | Inserts | Privileges

## 2.14 Stud

```
CREATE TABLE IF NOT EXISTS 'studdb'.'Stud' (
  'Stud_ID' INT NOT NULL,
  'fk_pol_id' INT NULL,
  'fk_Gruppa_ID' INT NULL,
  'NoZach' VARCHAR(10) NULL,
  'LName' VARCHAR(50) NULL,
  'FName' VARCHAR(50) NULL,
  'MName' VARCHAR(50) NULL,
  'BirthDay' DATE NULL,
  'Rost' DECIMAL(7,2) NULL,
  'Ves' INT NULL,
  'Stipendia' INT NULL,
  PRIMARY KEY ('Stud_ID'),
  INDEX 'fk_pol_id_idx' ('fk_pol_id' ASC) VISIBLE,
  INDEX 'fk_Gruppa_ID_idx' ('fk_Gruppa_ID' ASC) VISIBLE,
  CONSTRAINT 'fk_pol_id'
    FOREIGN KEY ('fk_pol_id')
      REFERENCES 'studdb'.'pol' ('pol_id')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT 'fk_Gruppa_ID'
    FOREIGN KEY ('fk_Gruppa_ID')
      REFERENCES 'studdb'.'Gruppa' ('Gruppa_ID')
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB
```

Stud - Table

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Stud_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_pol_id	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
fk_Gruppe_ID	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NoZach	VARCHAR(10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LName	VARCHAR(50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PName	VARCHAR(50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MName	VARCHAR(50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
BirthDay	DATE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rost	DECIMAL(7,2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ves	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Stipendia	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

## 2.15 Subject

```
CREATE TABLE IF NOT EXISTS 'studdb'.'Subject' (
  'Subject_ID' INT NOT NULL,
  'Subject' VARCHAR(50) NULL,
  'ShortSubject' VARCHAR(10) NULL,
  PRIMARY KEY ('Subject_ID'))
ENGINE = InnoDB
```

Subject - Table

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Subject_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Subject	VARCHAR(50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ShortSubject	VARCHAR(10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

## 2.16 TypeOch

```
CREATE TABLE IF NOT EXISTS 'studdb'.'TypeOch' (
  'TypeOch_ID' INT NOT NULL,
  'TypeOch' INT NULL,
  'Coment' VARCHAR(20) NULL,
  PRIMARY KEY ('TypeOch_ID'))
ENGINE = InnoDB
```

TypeOch - Table

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
TypeOch_ID	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
TypeOch	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Coment	VARCHAR(20)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored

☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

## 2.17 uroven

```
CREATE TABLE IF NOT EXISTS 'studdb'.'uroven' (
  'uroven_id' VARCHAR(1) NOT NULL,
  'uroven' VARCHAR(50) NULL,
  PRIMARY KEY ('uroven_id'))
ENGINE = InnoDB
```

uroven - Table

Table Name:  Schema: **studdb**

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
uroven_id	VARCHAR(1)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
uroven	VARCHAR(50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Name:

Charset/Collation:

Comments:

Data Type:

Default:

Storage: ☐ Virtual ☐ Stored

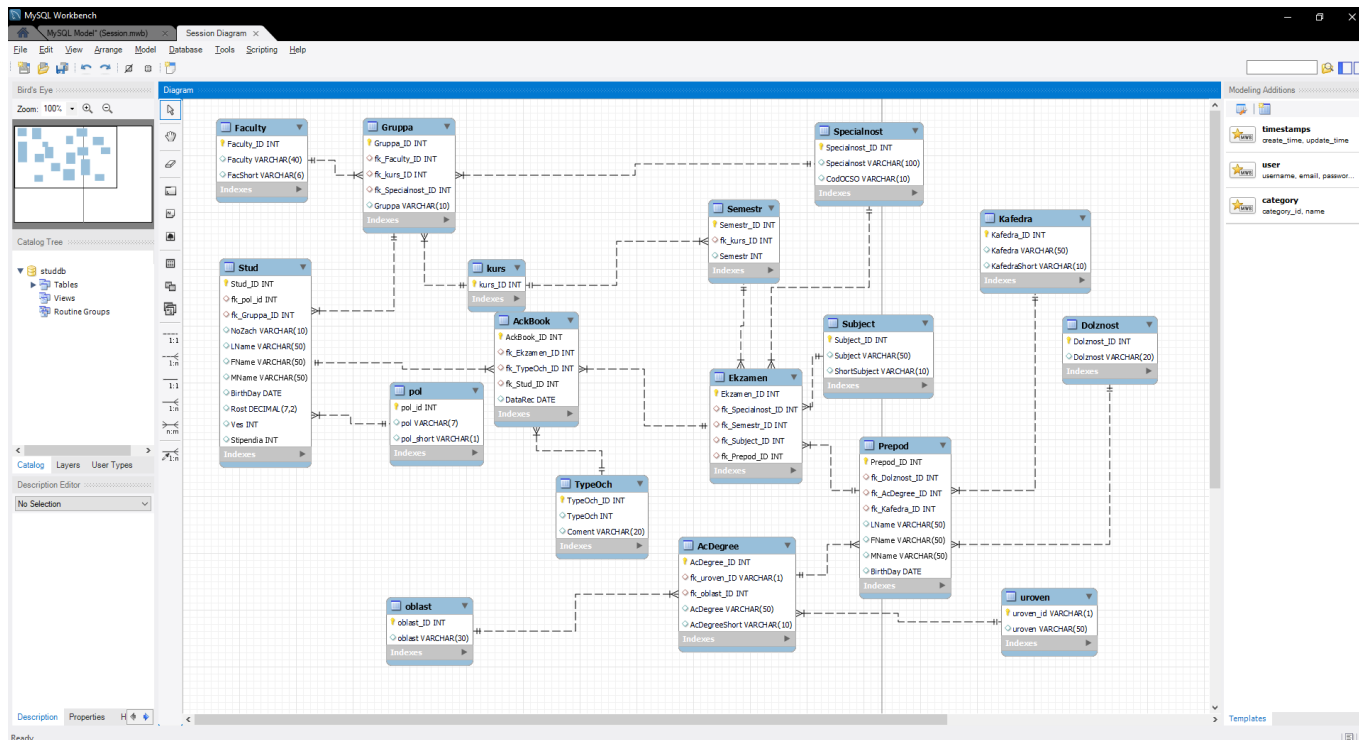
☐ Primary Key ☐ Not Null ☐ Unique

☐ Binary ☐ Unsigned ☐ Zero Fill

☐ Auto Increment ☐ Generated

Columns Indexes Foreign Keys Triggers Partitioning Options Inserts Privileges

### 3 Информация о создании ER-диаграммы



#### 4 Информация о заполнении таблиц данными

The screenshot displays the MySQL Workbench interface. The top toolbar includes icons for File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The left sidebar shows the 'SCHEMAS' tab with a tree view containing 'Filter objects', 'studdb', and 'sys'. Below this, the 'Administration' and 'Schemas' tabs are visible, along with 'Information'. The main editor window shows a SQL script with the following content:

```
1 TRUNCATE TABLE acdegree;
2 TRUNCATE TABLE ackbook;
3 TRUNCATE TABLE dolznost;
4 TRUNCATE TABLE ekzamen;
5 TRUNCATE TABLE faculty;
6 TRUNCATE TABLE gruppa;
7 TRUNCATE TABLE kafedra;
8 TRUNCATE TABLE kurs;
9 TRUNCATE TABLE oblast;
10 TRUNCATE TABLE pol;
11 TRUNCATE TABLE prepod;
12 TRUNCATE TABLE semestr;
13 TRUNCATE TABLE specialnost;
14 TRUNCATE TABLE stud;
15 TRUNCATE TABLE subject;
16 TRUNCATE TABLE typeoch;
17 TRUNCATE TABLE uroven;
18
19 INSERT INTO OBLAST (OBLAST_ID, OBLAST) VALUES (1, 'физика-математика');
20 INSERT INTO OBLAST (OBLAST_ID, OBLAST) VALUES (2, 'философия');
21 INSERT INTO OBLAST (OBLAST_ID, OBLAST) VALUES (3, 'филология');
22 INSERT INTO OBLAST (OBLAST_ID, OBLAST) VALUES (4, 'биология');
23 INSERT INTO OBLAST (OBLAST_ID, OBLAST) VALUES (5, 'экономика');
24 INSERT INTO OBLAST (OBLAST_ID, OBLAST) VALUES (6, 'педагогика');
25 INSERT INTO OBLAST (OBLAST_ID, OBLAST) VALUES (7, 'психология');
26 INSERT INTO OBLAST (OBLAST_ID, OBLAST) VALUES (8, 'химия');
```

The bottom panel shows the 'Output' tab with a table of execution results:

#	Action	Output	Message	Duration / fecs
1038	17:53:02	INSERT INTO ACKBOOK (ACKBOOK_ID, FK_EKZAMEN_ID, FK_TYPEOCH_ID, FK_STUD_ID, DATAREC) VALUES (14, 1, 445, 6, 2000-06-26 00:00:00)	1 row(s) affected	0.000 sec
1039	17:53:02	INSERT INTO ACKBOOK (ACKBOOK_ID, FK_EKZAMEN_ID, FK_TYPEOCH_ID, FK_STUD_ID, DATAREC) VALUES (15, 1, 492, 6, 2000-06-26 00:00:00)	1 row(s) affected	0.000 sec
1040	17:53:02	INSERT INTO ACKBOOK (ACKBOOK_ID, FK_EKZAMEN_ID, FK_TYPEOCH_ID, FK_STUD_ID, DATAREC) VALUES (16, 1, 497, 6, 2000-06-26 00:00:00)	1 row(s) affected	0.000 sec
1041	17:53:02	INSERT INTO ACKBOOK (ACKBOOK_ID, FK_EKZAMEN_ID, FK_TYPEOCH_ID, FK_STUD_ID, DATAREC) VALUES (17, 1, 590, 6, 2000-06-26 00:00:00)	1 row(s) affected	0.000 sec
1042	17:53:02	INSERT INTO ACKBOOK (ACKBOOK_ID, FK_EKZAMEN_ID, FK_TYPEOCH_ID, FK_STUD_ID, DATAREC) VALUES (18, 1, 603, 2, 2000-06-26 00:00:00)	1 row(s) affected	0.000 sec
1043	17:53:02	INSERT INTO ACKBOOK (ACKBOOK_ID, FK_EKZAMEN_ID, FK_TYPEOCH_ID, FK_STUD_ID, DATAREC) VALUES (19, 1, 609, 5, 2000-06-26 00:00:00)	1 row(s) affected	0.000 sec
1044	17:53:02	INSERT INTO ACKBOOK (ACKBOOK_ID, FK_EKZAMEN_ID, FK_TYPEOCH_ID, FK_STUD_ID, DATAREC) VALUES (20, 1, 610, 6, 2000-06-26 00:00:00)	1 row(s) affected	0.000 sec
1045	17:53:02	INSERT INTO ACKBOOK (ACKBOOK_ID, FK_EKZAMEN_ID, FK_TYPEOCH_ID, FK_STUD_ID, DATAREC) VALUES (21, 1, 624, 0, 2000-06-26 00:00:00)	1 row(s) affected	0.015 sec
1046	17:53:02	COMMIT WORK	0 row(s) affected	0.000 sec

The bottom status bar shows the SQL script saved to 'D:\tema\universit\Asu\_FTF\_lectures\6\lab3\fill\_db\_script.sql'.

## 5 Информация о результате выполнения запросов

### 5.1

```
select concat(FName,MName,"_",BirthDay,"_",LName) from studdb.stud where BirthDay
between '1983/01/01' and '1992/12/31';
```

The screenshot shows the MySQL Workbench interface. The query editor contains a SQL query that concatenates first name, middle name, birth date, and last name for students born between 1983/01/01 and 1992/12/31. The results grid displays the output of this query, showing columns for the concatenated string. The output shows a list of student names with their birth dates concatenated into a single string.

concat(FName,MName,"_",BirthDay,"_",LName)
Иван/Ивановна_1989-10-08_Иванов
Радис/Абдильды_1989-03-15_Гольев
Владис/Владимировна_1989-05-30_Гришова
Ирина/Ирина_1991-07-26_Минер
Алиса/Алиса_1989-12-22_Кондрова
Дана/Сергеевна_1990-08-01_Чернова
Елена/Александровна_1992-08-26_Лебедева
Виктор/Виктор_1989-03-12_Нерасимов
Ирина/Ирина_1991-02-20_Колесова
Радис/Алиса_1988-12-31_Брикова
Алиса/Ирина_1992-01-26_Жукова
Виктор/Виктор_1989-05-06_Кондрова
Лилия/Петровна_1992-02-21_Максимова
Ирина/Алиса_1990-08-31_Смирнова
Ирина/Алиса_1990-12-29_Петухова
Ирина/Алиса_1992-04-29_Куришева
Регина/Владимировна_1992-01-29_Полкова
Ана/Алиса_1989-09-05_Малахова
Ирина/Алиса_1991-01-15_Харькова
Катя/Ирина_1989-07-19_Толкаева
Алиса/Алиса_1992-11-17_Степанова
Регина/Ирина_1991-07-02_Гришова
Оксана/Константиновна_1989-08-23_Исмаилов

### 5.2 Вывести большими буквами фамилии месяц рождения студентов групп 302, 375 и 386

```
select upper(LName), upper(monthname(BirthDay)) from studdb.stud where fk_Gruppa_ID in
(302,375,386);
```

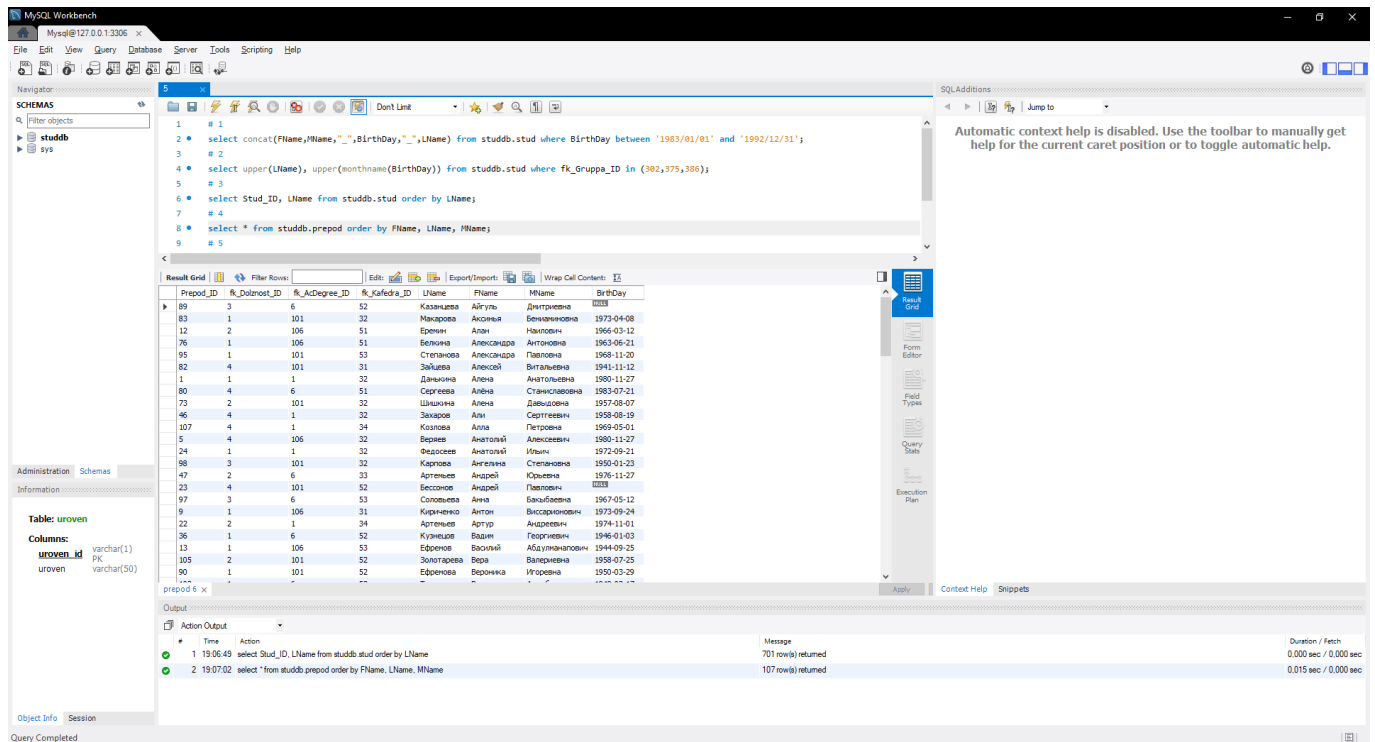
The screenshot shows the MySQL Workbench interface. The query editor contains a SQL query that retrieves the last name and the month of birth for students in groups 302, 375, and 386. The results grid displays the output of this query, showing columns for the last name and the month of birth. The output shows a list of student names and their birth months, with the last name in uppercase and the month in uppercase.

upper(LName)	upper(monthname(BirthDay))
ОМЕРНОВА	APRIL
ЕРМАКОВА	OCTOBER
СОЛОНОВА	JANUARY
ИСТОМНИА	SEPTEMBER
ДОЛГОВА	OCTOBER
ЗНАКОРЕВА	NOVEMBER
ЗНАКОРЕВА	JULY
КОЛЕЧНИКОВА	MAY
ЗАПЛЕВА	DECEMBER
ПОНОМАРЕНКО	JULY
ГРЕБЕВНИ	JUNE
ГУЛЮБ	MARCH
МИРОШНИЧЕНКО	MAY
АНДРЕЕВ	FEBRUARY
МИРОШНИЧЕНКО	OCTOBER
ИШАКОВ	OCTOBER
ПОЛКОВА	JANUARY
ПОЛКОВА	MARCH
КАРПОВА	MARCH
КОЗЛОВА	SEPTEMBER
ПРИТОРОВА	MARCH
СЕРГЕЕВА	MAY
СКОПЦОВА	JUNE



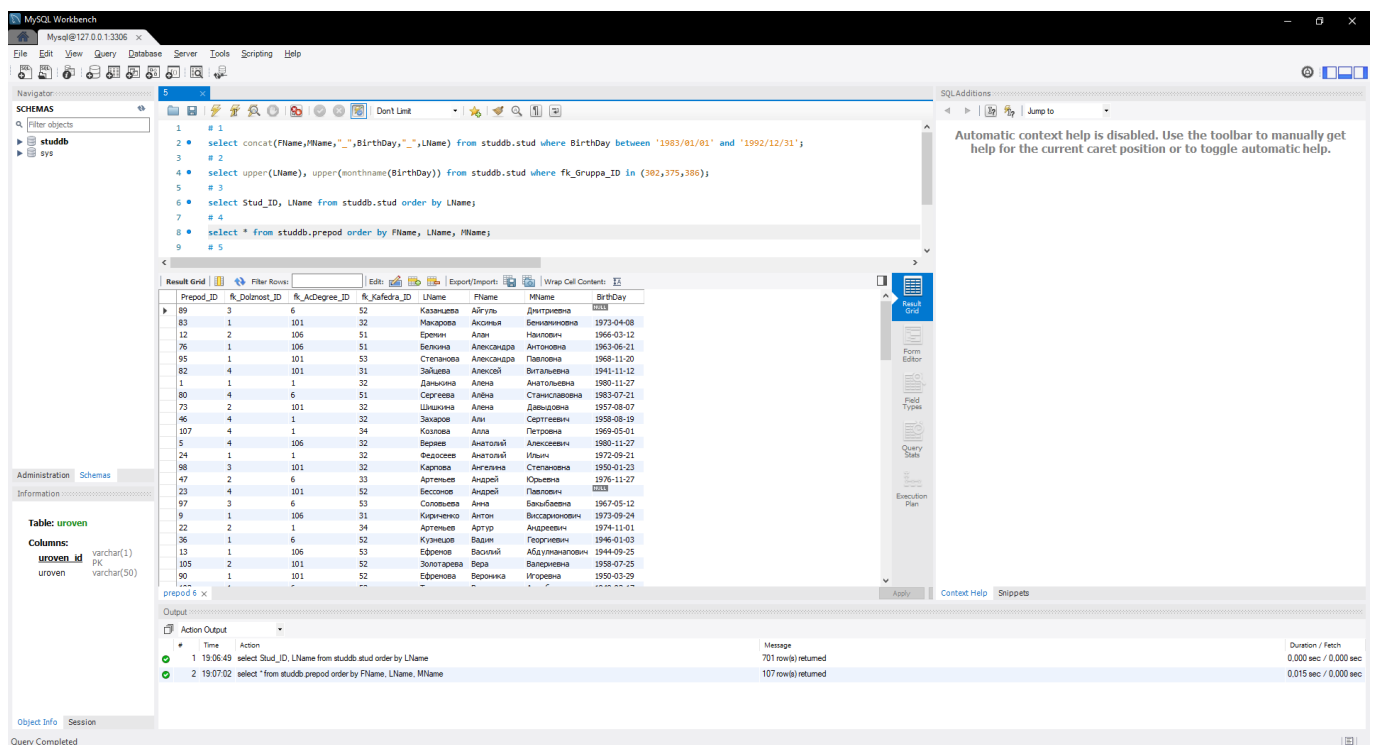
## 5.3 Вывести номер зачетки, фамилию студентов групп 303 и 305 отсортировав список по фамилии

```
select Stud_ID, LName from studdb.stud order by LName;
```



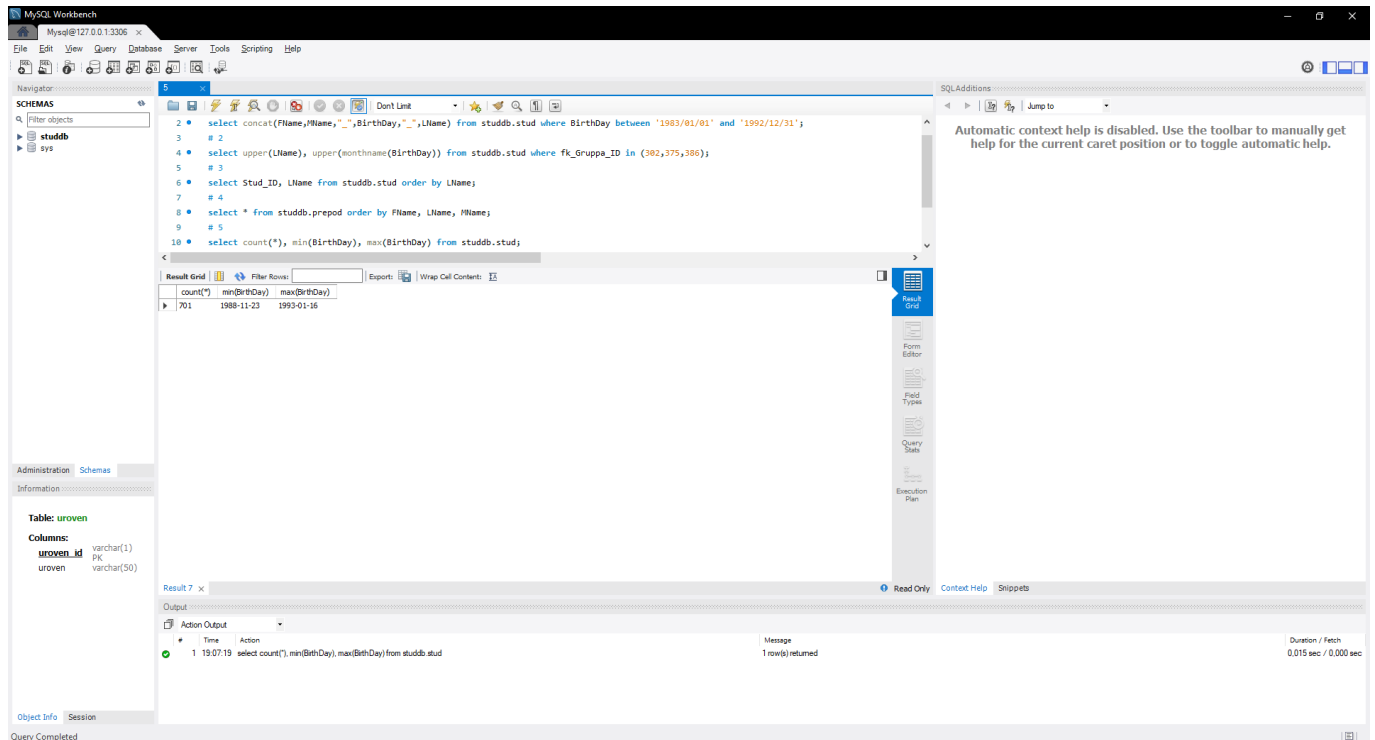
## 5.4 Вывести сведения о преподавателях, отсортировав список по имени, фамилии, отчеству

```
select * from studdb.prepod order by FName, LName, MName;
```



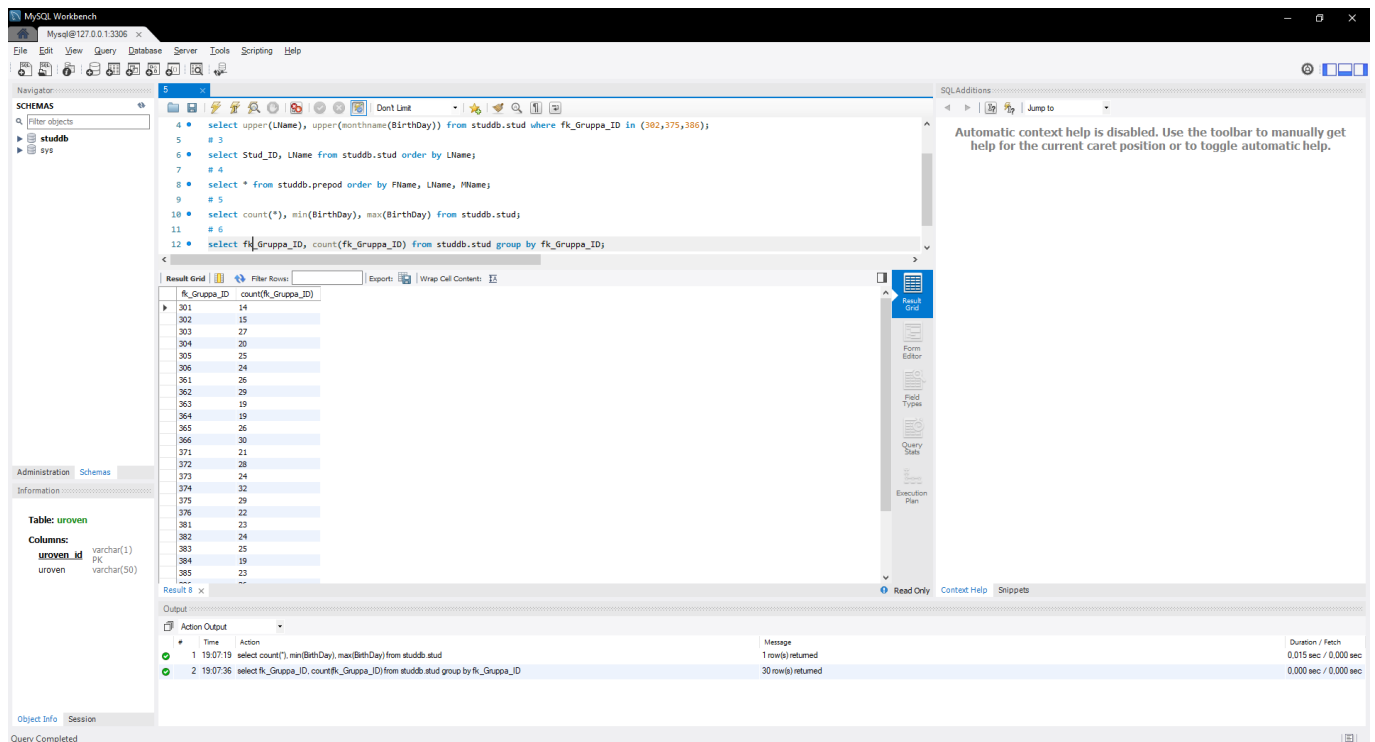
## 5.5 Вывести количество студентов, минимальную и максимальную дату рождения

```
select count(*), min(BirthDay), max(BirthDay) from studdb.stud;
```



## 5.6 Вывести список групп и количество студентов в них

```
select fk_Gruppa_ID, count(fk_Gruppa_ID) from studdb.stud group by fk_Gruppa_ID;
```



## 5.7 Вывести список групп (и количество студентов в них), где количество студентов меньше 20

```
select fk_Gruppa_ID, count(fk_Gruppa_ID) as count_of_stud from studdb.stud group by
fk_Gruppa_ID having count(fk_Gruppa_ID) < 20;
```

The screenshot shows the MySQL Workbench interface with a SQL query editor and a results grid. The query is as follows:

```
6 • select Stud_ID, UName from studdb.stud order by UName;
7 • # 4
8 • select * from studdb.prepod order by FName, UName, MName;
9 • # 5
10 • select count(*), min(BirthDay), max(BirthDay) from studdb.stud;
11 • # 6
12 • select fk_Gruppa_ID, count(fk_Gruppa_ID) from studdb.stud group by fk_Gruppa_ID;
13 • # 7
14 • select fk_Gruppa_ID, count(fk_Gruppa_ID) as count_of_stud from studdb.stud group by fk_Gruppa_ID having count(fk_Gruppa_ID) < 20;
```

The results grid displays the following data:

fk_Gruppa_ID	count_of_stud
301	14
302	15
363	19
364	19
384	19
393	18
394	17

The bottom panel shows the execution output with the following details:

Time	Action	Message	Duration / Fetch
1 19:07:19	select count(*), min(BirthDay), max(BirthDay) from studdb.stud	1 row(s) returned	0.015 sec / 0.000 sec
2 19:07:36	select fk_Gruppa_ID, count(fk_Gruppa_ID) from studdb.stud group by fk_Gruppa_ID	30 row(s) returned	0.000 sec / 0.000 sec
3 19:07:49	select fk_Gruppa_ID, count(fk_Gruppa_ID) as count_of_stud from studdb.stud group by fk_Gruppa_ID having count(fk_Gruppa_ID) < 20	7 row(s) returned	0.000 sec / 0.000 sec

## 6 Вывод о проделанной работе

В ходе данной работы были изучены основы работы с агрегатными функциями в SQL запросах.