МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РОССИЙСКОЙ ФЕДЕРАЦИИ ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ  
«ОРЛОВСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ   
ИМЕНИ И.С. ТУРГЕНЕВА»

Кафедра информационных систем

Отчет   
по лабораторной работе №4  
на тему: « Реализация базы данных «Журнал группы»»  
по дисциплине «Базы данных»

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**1 Скрипты создания базы данных**

Создание таблицы «Student»

create table if not exists university.Student (

idStudent int not null,

lastName varchar(45) not null,

firstName varchar(45) not null,

midName varchar(45) not null,

birthYear date not null,

entryYear date not null,

address VARCHAR(45) not null,

isHeadman boolean not null,

primary key (idStudent) )

Создание таблицы «Telephone»

create table if not exists university.Telephone (

idTelephone int not null,

number varchar(20) not null,

primary key (idTelephone) )

Создание таблицы « Group »

create table if not exists university.Group (

idGroup int not null,

groupName varchar(10) not null,

course int not null,

semester int not null,

primary key (idGroup) )

Создание таблицы « Faculty »

create table if not exists university.Faculty (

idFaculty int not null,

name varchar(20) not null,

primary key (idFaculty) )

Создание таблицы « Direction »

create table if not exists university.Direction (

idDirection int not null,

name varchar(60) not null,

primary key (idDirection) )

Создание таблицы « Teacher »

create table if not exists university.Teacher (

idTeacher int not null,

lastName varchar(45) not null,

firstName varchar(45) not null,

midName varchar(45) not null,

primary key (idTeacher) )

Создание таблицы « TypeOfClassWork »

create table if not exists university.TypeOfClassWork (

idTypeOfClassWork int not null,

name varchar(20) not null,

hours int not null,

primary key (idTypeOfClassWork) )

Создание таблицы « ClassWork »

create table if not exists university.ClassWork (

idClassWork int not null,

date date not null,

theme varchar(60),

primary key (idClassWork) )

Создание таблицы « Faculty\_has\_Direction »

create table if not exists university.Faculty\_has\_Direction (

Faculty\_idFaculty int not null,

Direction\_idDirection int not null,

foreign key (Faculty\_idFaculty) references university.Faculty(idFaculty),

foreign key (Direction\_idDirection) references university.Direction(idDirection),

primary key (Faculty\_idFaculty, Direction\_idDirection) )

Создание таблицы « Subject »

create table if not exists university.Subject (

idSuject int not null,

name varchar(50),

primary key (idSuject) )

Создание таблицы « Group\_has\_Subject »

create table if not exists university.Group\_has\_Subject (

Group\_idGroup int not null,

Subject\_idSubject int not null,

TypeOfClassWork\_idTypeOfClassWork int not null,

Teacher\_idTeacher int not null,

hours int not null,

foreign key (Group\_idGroup) references `Group`(idGroup),

foreign key (Subject\_idSubject) references Subject(idSuject),

foreign key (TypeOfClassWork\_idTypeOfClassWork) references TypeOfClassWork(idTypeOfClassWork),

foreign key (Teacher\_idTeacher) references Teacher(idTeacher),

primary key (Group\_idGroup, Subject\_idSubject, TypeOfClassWork\_idTypeOfClassWork) )

Создание таблицы « ClassWork\_has\_Student »

create table if not exists university.ClassWork\_has\_Student (

ClassWork\_idClassWork int not null,

Student\_idStudent int not null,

typeOfMiss int not null,

foreign key (ClassWork\_idClassWork) references university.ClassWork(idClasswork),

foreign key (Student\_idStudent) references university.Student(idStudent),

primary key (ClassWork\_idClassWork, Student\_idStudent) )

Создание таблицы « TestTable »

create table if not exists university.TestTable (

idTest int not null,

name varchar(45) )

**2 Скрипты изменения базы данных**

Изменение таблицы «Telephone»

alter table university.Telephone

add column Student\_idStudent int not null,

add foreign key (Student\_idStudent) references university.Student(idStudent)

Изменение таблицы « Group »

alter table university.Group

add column Faculty\_has\_Direction\_Faculty\_idFaculty int not null,

add column Faculty\_has\_Direction\_Faculty\_idDirection int not null,

add foreign key (Faculty\_has\_Direction\_Faculty\_idFaculty, Faculty\_has\_Direction\_Faculty\_idDirection)

references university.Faculty\_has\_Direction(Faculty\_idFaculty, Direction\_idDirection)

Изменение таблицы « Group »

alter table university.`Group`

add column Teacher\_idTeacher int null,

add foreign key (Teacher\_idTeacher) references university.Teacher(idTeacher)

Изменение таблицы « ClassWork »

alter table university.ClassWork

add column Group\_has\_Subject\_Group\_idGroup int not null,

add foreign key (Group\_has\_Subject\_Group\_idGroup)

references university.Group\_has\_Subject(Group\_idGroup)

Изменение таблицы « ClassWork »

alter table university.ClassWork

add column Group\_has\_Subject\_Subject\_idSubject int not null,

add foreign key (Group\_has\_Subject\_Subject\_idSubject)

references university.Group\_has\_Subject(Subject\_idSubject)

Изменение таблицы « ClassWork »

alter table university.ClassWork

add column Group\_has\_Subject\_TypeOfClassWork\_idTypeOfClassWork int not null,

add foreign key (Group\_has\_Subject\_TypeOfClassWork\_idTypeOfClassWork)

references university.Group\_has\_Subject(TypeOfClassWork\_idTypeOfClassWork)

Удаление таблицы « TestTable »

drop table university.TestTable

Изменение таблицы « Student »

alter table university.Student

add column testColumn varchar(45) not null

Удаление поля таблицы « Student »

alter table university.Student

drop column testColumn

**3 Скрипты наполнения базы данных**

Наполнение таблицы «ClassWork»

INSERT INTO university.ClassWork (idClassWork, date, theme, Group\_has\_Subject\_Group\_idGroup, Group\_has\_Subject\_Subject\_idSubject, Group\_has\_Subject\_TypeOfClassWork\_idTypeOfClassWork) VALUES (1, '2018-11-28', 'Lab4', 1, 1, 1);

INSERT INTO university.ClassWork (idClassWork, date, theme, Group\_has\_Subject\_Group\_idGroup, Group\_has\_Subject\_Subject\_idSubject, Group\_has\_Subject\_TypeOfClassWork\_idTypeOfClassWork) VALUES (2, '2018-11-30', 'Number methods', 1, 3, 3);

INSERT INTO university.ClassWork (idClassWork, date, theme, Group\_has\_Subject\_Group\_idGroup, Group\_has\_Subject\_Subject\_idSubject, Group\_has\_Subject\_TypeOfClassWork\_idTypeOfClassWork) VALUES (3, '2018-11-26', 'Show apps results', 1, 6, 1);

INSERT INTO university.ClassWork (idClassWork, date, theme, Group\_has\_Subject\_Group\_idGroup, Group\_has\_Subject\_Subject\_idSubject, Group\_has\_Subject\_TypeOfClassWork\_idTypeOfClassWork) VALUES (4, '2018-10-15', 'Predicates', 1, 2, 2);

Наполнение таблицы «ClassWork\_has\_Student»

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (1, 1, 1);

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (1, 2, 2);

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (1, 3, 2);

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (1, 4, 1);

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (2, 1, 2);

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (2, 2, 0);

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (2, 3, 2);

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (2, 4, 2);

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (3, 1, 0);

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (3, 2, 2);

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (3, 3, 2);

INSERT INTO university.ClassWork\_has\_Student (ClassWork\_idClassWork, Student\_idStudent, typeOfMiss) VALUES (3, 4, 1);

Наполнение таблицы «Direction»

INSERT INTO university.Direction (idDirection, name) VALUES (1, 'PG');

INSERT INTO university.Direction (idDirection, name) VALUES (2, 'IVT');

INSERT INTO university.Direction (idDirection, name) VALUES (3, 'IT');

INSERT INTO university.Direction (idDirection, name) VALUES (4, 'PI');

Наполнение таблицы «Faculty»

INSERT INTO university.Faculty (idFaculty, name) VALUES (1, 'IPAIT');

INSERT INTO university.Faculty (idFaculty, name) VALUES (2, 'IEiY');

INSERT INTO university.Faculty (idFaculty, name) VALUES (3, 'ASI');

INSERT INTO university.Faculty (idFaculty, name) VALUES (4, 'LAW');

Наполнение таблицы «Faculty\_has\_Direction»

INSERT INTO university.Faculty\_has\_Direction (Faculty\_idFaculty, Direction\_idDirection) VALUES (1, 1);

INSERT INTO university.Faculty\_has\_Direction (Faculty\_idFaculty, Direction\_idDirection) VALUES (1, 2);

INSERT INTO university.Faculty\_has\_Direction (Faculty\_idFaculty, Direction\_idDirection) VALUES (1, 3);

INSERT INTO university.Faculty\_has\_Direction (Faculty\_idFaculty, Direction\_idDirection) VALUES (1, 4);

Наполнение таблицы «Subject»

INSERT INTO university.Subject (idSuject, name) VALUES (1, 'Data Bases');

INSERT INTO university.Subject (idSuject, name) VALUES (2, 'Math Logic');

INSERT INTO university.Subject (idSuject, name) VALUES (3, 'Mathematics');

INSERT INTO university.Subject (idSuject, name) VALUES (4, 'C++');

INSERT INTO university.Subject (idSuject, name) VALUES (5, 'Computer Networks');

INSERT INTO university.Subject (idSuject, name) VALUES (6, 'Project activities');

Наполнение таблицы «Teacher»

INSERT INTO university.Teacher (idTeacher, lastName, firstName, midName) VALUES (1, 'Zaharova', 'Olga', 'Vladimirovna');

INSERT INTO university.Teacher (idTeacher, lastName, firstName, midName) VALUES (2, 'Rizhenkov', 'Denis', 'Viktorovich');

INSERT INTO university.Teacher (idTeacher, lastName, firstName, midName) VALUES (3, 'Smolyakov', 'Maksim', 'Valerevich');

INSERT INTO university.Teacher (idTeacher, lastName, firstName, midName) VALUES (4, 'Frolov', 'Alexei', 'Ivanovich');

INSERT INTO university.Teacher (idTeacher, lastName, firstName, midName) VALUES (5, 'Semenova', 'Galina', 'Aleksandrovna');

INSERT INTO university.Teacher (idTeacher, lastName, firstName, midName) VALUES (6, 'Artemov', 'Andrei', 'Vladimirovich');

Наполнение таблицы «Telephone»

INSERT INTO university.Telephone (idTelephone, number, Student\_idStudent) VALUES (1, '89107480435', 1);

INSERT INTO university.Telephone (idTelephone, number, Student\_idStudent) VALUES (2, '89103019445', 3);

INSERT INTO university.Telephone (idTelephone, number, Student\_idStudent) VALUES (3, '89961618691', 2);

INSERT INTO university.Telephone (idTelephone, number, Student\_idStudent) VALUES (4, '89102674546', 4);

Наполнение таблицы «TypeOfClassWork»

INSERT INTO university.TypeOfClassWork (idTypeOfClassWork, name, hours) VALUES (1, 'LabWorks', 4);

INSERT INTO university.TypeOfClassWork (idTypeOfClassWork, name, hours) VALUES (2, 'Lection', 2);

INSERT INTO university.TypeOfClassWork (idTypeOfClassWork, name, hours) VALUES (3, 'Practics', 2);

Наполнение таблицы «Student»

INSERT INTO university.Student (idStudent, lastName, firstName, midName, birthYear, entryYear, address, isHeadman, Group\_idGroup) VALUES (1, 'Shekotihin', 'Sergei', 'Evgeneich', '2000-08-05', '2017-09-01', 'Oktyabrskaya 126', 0, 1);

INSERT INTO university.Student (idStudent, lastName, firstName, midName, birthYear, entryYear, address, isHeadman, Group\_idGroup) VALUES (2, 'Shorin', 'Vladislav', 'Dmirievich', '2000-05-27', '2017-09-01', 'Metallurgov 46', 0, 1);

INSERT INTO university.Student (idStudent, lastName, firstName, midName, birthYear, entryYear, address, isHeadman, Group\_idGroup) VALUES (3, 'Marochkin', 'Maksim', 'Aleksandrovich', '1999-11-13', '2017-09-01', 'Komsomolskaya 32', 0, 1);

INSERT INTO university.Student (idStudent, lastName, firstName, midName, birthYear, entryYear, address, isHeadman, Group\_idGroup) VALUES (4, 'Kozhuhova', 'Olga', 'Andreevna', '2000-03-07', '2017-09-01', 'Komsomolskaya 22', 1, 1);

Наполнение таблицы «Group\_has\_Subject»

INSERT INTO university.Group\_has\_Subject (Group\_idGroup, Subject\_idSubject, TypeOfClassWork\_idTypeOfClassWork, Teacher\_idTeacher, hours) VALUES (1, 1, 1, 2, 32);

INSERT INTO university.Group\_has\_Subject (Group\_idGroup, Subject\_idSubject, TypeOfClassWork\_idTypeOfClassWork, Teacher\_idTeacher, hours) VALUES (1, 2, 2, 6, 22);

INSERT INTO university.Group\_has\_Subject (Group\_idGroup, Subject\_idSubject, TypeOfClassWork\_idTypeOfClassWork, Teacher\_idTeacher, hours) VALUES (1, 3, 3, 5, 24);

INSERT INTO university.Group\_has\_Subject (Group\_idGroup, Subject\_idSubject, TypeOfClassWork\_idTypeOfClassWork, Teacher\_idTeacher, hours) VALUES (1, 6, 1, 3, 44);

Наполнение таблицы « Group »

INSERT INTO university.`Group` (idGroup, groupName, course, semester, Faculty\_has\_Direction\_Faculty\_idFaculty, Faculty\_has\_Direction\_Faculty\_idDirection, Teacher\_idTeacher) VALUES (1, '71-PG', 2, 3, 1, 1, null);

INSERT INTO university.`Group` (idGroup, groupName, course, semester, Faculty\_has\_Direction\_Faculty\_idFaculty, Faculty\_has\_Direction\_Faculty\_idDirection, Teacher\_idTeacher) VALUES (5, '71-IVT', 2, 3, 1, 2, null);

INSERT INTO university.`Group` (idGroup, groupName, course, semester, Faculty\_has\_Direction\_Faculty\_idFaculty, Faculty\_has\_Direction\_Faculty\_idDirection, Teacher\_idTeacher) VALUES (6, '71-PI', 2, 3, 1, 4, null);

INSERT INTO university.`Group` (idGroup, groupName, course, semester, Faculty\_has\_Direction\_Faculty\_idFaculty, Faculty\_has\_Direction\_Faculty\_idDirection, Teacher\_idTeacher) VALUES (7, '71-IT', 2, 3, 1, 3, null);