

Министерство науки и высшего образования Российской Федерации
федеральное государственное автономное образовательное учреждение
высшего образования
**«НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ
ИТМО»**

Отчет

по лабораторной работе №1

«Создание БД в СУБД PostgreSQL.

Резервное копирование и восстановление БД»

по дисциплине «Проектирование и реализация баз данных»

Вариант №7. БД «Курсы»

Авторы: Антонова М. А.

Факультет: ФИКТ

Группа: К32422

Преподаватель: Говорова М.М.

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1 Описание работы

Цель работы: овладеть практическими навыками создания таблиц базы данных PostgreSQL 1X, заполнения их рабочими данными, резервного копирования и восстановления БД.

Оборудование: компьютерный класс.

Программное обеспечение: СУБД PostgreSQL 1X, pgAdmin 4.

Практическое задание:

1. Создать базу данных с использованием pgAdmin 4 (согласно индивидуальному заданию).
2. Создать схему в составе базы данных.
3. Создать таблицы базы данных.
4. Установить ограничения на данные: *Primary Key, Unique, Check, Foreign Key*.
5. Заполнить таблицы БД рабочими данными.
6. Создать резервную копию БД.
 - i. *Указание:*
 - ii. *Создать две резервные копии:*
 - с расширением CUSTOM для восстановления БД;*
 - с расширением PLAIN для листинга (в отчете);*
 - при создании резервных копий БД настроить параметры Dump options для Type of objects и Queries .*
7. Восстановить БД.

2 Описание предметной области

Вариант 7. БД «Курсы»

Сеть учебных подразделений занимается организацией внебюджетного образования.

Имеется несколько образовательных программ краткосрочных курсов, предназначенных для определенных специальностей, связанных с программным обеспечением ИТ. Каждая программа имеет определенную длительность и свой перечень изучаемых дисциплин. Одна дисциплина может относиться к нескольким программам. На каждую программу может быть набрано несколько групп обучающихся. По каждой дисциплине могут проводиться лекционные, лабораторные/практические занятия и практика определенном объеме часов. По каждой дисциплине и практике проводится аттестация в формате экзамен/дифзачет/зачет.

Подразделение обеспечивает следующие ресурсы: учебные классы, лекционные аудитории и преподавателей. Необходимо составить расписание занятий.

БД должна содержать следующий минимальный набор сведений: Фамилия слушателя. Имя слушателя. Паспортные данные. Контакты. Код программы. Программа. Тип программы. Объем часов. Номер группы. максимальное количество человек в группе (для набора). Дата начала обучения. Дата окончания обучения. Название дисциплины. Количество часов. Дата занятий. Номер пары. Номер аудитории. Тип аудитории. Адрес площадки. Вид занятий (лекционные, практические или лабораторные). Фамилия преподавателя. Имя и отчество преподавателя. Должность преподавателя. Дисциплины, которые может вести преподаватель.

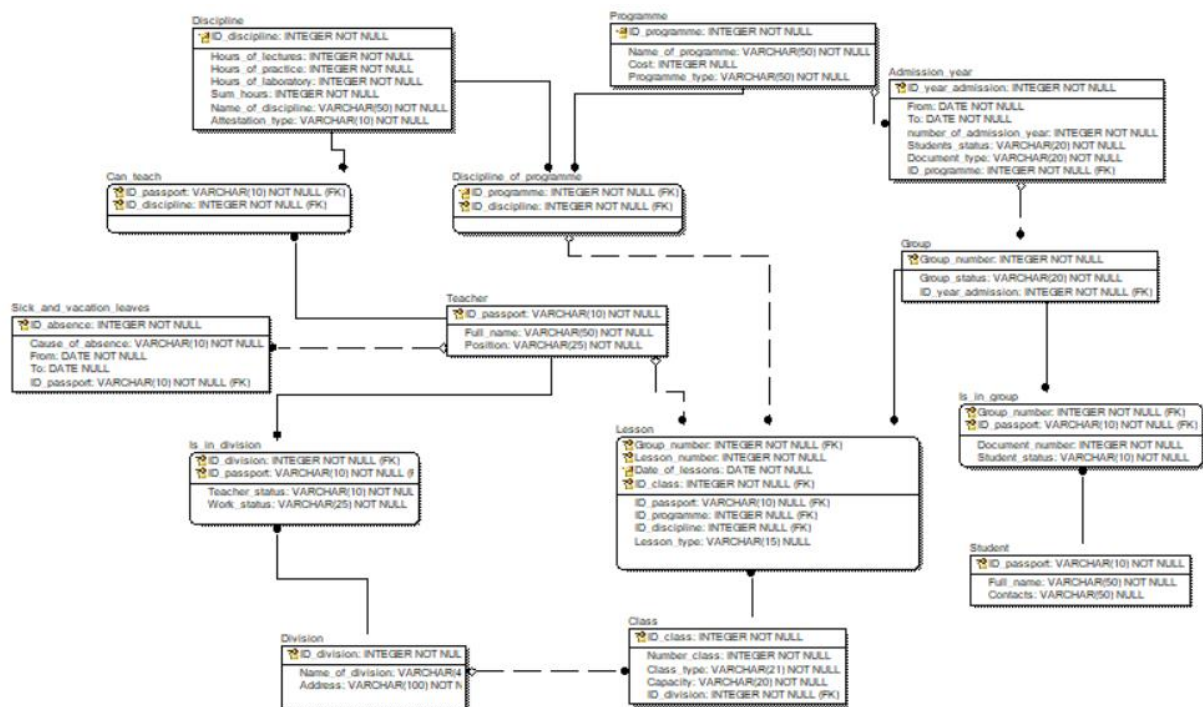


Рисунок 2 – Схема инфологической модели данных БД в нотации Чена-Кириллова

4 Dump, содержащий скрипты работы с БД

--

-- PostgreSQL database dump

--

-- Dumped from database version 14.7

-- Dumped by pg_dump version 14.7

-- Started on 2023-03-19 17:01:45

```
SET statement_timeout = 0;
```

```
SET lock_timeout = 0;
```

```
SET idle_in_transaction_session_timeout = 0;
```

```
SET client_encoding = 'UTF8';
```

```
SET standard_conforming_strings = on;
```

```
SELECT pg_catalog.set_config('search_path', '', false);
```

```
SET check_function_bodies = false;
```

```
SET xmloption = content;
```

```
SET client_min_messages = warning;
```

```
SET row_security = off;
```

```
--
```

```
-- TOC entry 6 (class 2615 OID 16396)
```

```
-- Name: timetable_courses; Type: SCHEMA; Schema: -; Owner:  
postgres
```

```
--
```

```
CREATE SCHEMA timetable_courses;
```

```
ALTER SCHEMA timetable_courses OWNER TO postgres;
```

```
--
```

```
-- TOC entry 874 (class 1247 OID 16659)
```

```
-- Name: Attestation_type; Type: TYPE; Schema: timetable_courses;  
Owner: postgres
```

```
--
```

```
CREATE TYPE timetable_courses."Attestation_type" AS ENUM (
```

```
    'экзамен',
```

```
    'зачет',
```

```
    'диф. зачет'
```

```
);
```

```
ALTER TYPE timetable_courses."Attestation_type" OWNER TO  
postgres;
```

--

-- TOC entry 862 (class 1247 OID 16620)

-- Name: Capacity; Type: TYPE; Schema: timetable_courses; Owner:
postgres

--

CREATE TYPE timetable_courses."Capacity" AS ENUM (

'до 20 человек',

'до 50 человек',

'до 100 человек',

'до 150 человек'

);

ALTER TYPE timetable_courses."Capacity" OWNER TO postgres;

--

-- TOC entry 892 (class 1247 OID 16706)

-- Name: Cause_of_absence; Type: TYPE; Schema: timetable_courses;
Owner: postgres

--

CREATE TYPE timetable_courses."Cause_of_absence" AS ENUM (

 'больничный',

 'отпуск'

);

ALTER TYPE timetable_courses."Cause_of_absence" OWNER TO
postgres;

--

-- TOC entry 859 (class 1247 OID 16611)

-- Name: Class_type; Type: TYPE; Schema: timetable_courses; Owner:
postgres

--

```
CREATE TYPE timetable_courses."Class_type" AS ENUM (  
  
    'лаборатория',  
  
    'лекционная',  
  
    'учебная',  
  
    'компьютерный класс'  
  
);
```

```
ALTER TYPE timetable_courses."Class_type" OWNER TO postgres;
```

```
--
```

```
-- TOC entry 880 (class 1247 OID 16690)
```

```
-- Name: Document_type; Type: TYPE; Schema: timetable_courses;  
Owner: postgres
```

```
--
```

```
CREATE TYPE timetable_courses."Document_type" AS ENUM (  
  
    'диплом',  
  
    'сертификат',
```

'справка об обучении'

);

ALTER TYPE timetable_courses."Document_type" OWNER TO
postgres;

--

-- TOC entry 883 (class 1247 OID 16698)

-- Name: Group_status; Type: TYPE; Schema: timetable_courses;
Owner: postgres

--

CREATE TYPE timetable_courses."Group_status" AS ENUM (

'обучается',

'окончила обучение',

'расформирована'

);

```
ALTER TYPE timetable_courses."Group_status" OWNER TO postgres;
```

```
--
```

```
-- TOC entry 919 (class 1247 OID 16802)
```

```
-- Name: Lesson_type; Type: TYPE; Schema: timetable_courses;
```

```
Owner: postgres
```

```
--
```

```
CREATE TYPE timetable_courses."Lesson_type" AS ENUM (
```

```
    'практика',
```

```
    'лекция',
```

```
    'лабораторная'
```

```
);
```

```
ALTER TYPE timetable_courses."Lesson_type" OWNER TO postgres;
```

```
--
```

-- TOC entry 865 (class 1247 OID 16639)

-- Name: Position; Type: TYPE; Schema: timetable_courses; Owner:
postgres

--

CREATE TYPE timetable_courses."Position" AS ENUM (

'преподаватель',

'старший преподаватель',

'ассистент',

'лаборант'

);

ALTER TYPE timetable_courses."Position" OWNER TO postgres;

--

-- TOC entry 877 (class 1247 OID 16666)

-- Name: Programme_type; Type: TYPE; Schema: timetable_courses;
Owner: postgres

--

```
CREATE TYPE timetable_courses."Programme_type" AS ENUM (  
  
    'бакалавриат',  
  
    'магистратура',  
  
    'аспирантура',  
  
    'специалитет',  
  
    'профессия',  
  
    'специальность',  
  
    'ДПО'  
  
);
```

```
ALTER TYPE timetable_courses."Programme_type" OWNER TO  
postgres;
```

--

```
-- TOC entry 910 (class 1247 OID 16775)
```

-- Name: St_status; Type: TYPE; Schema: timetable_courses; Owner:
postgres

--

CREATE TYPE timetable_courses."St_status" AS ENUM (

'учится',

'отчислен',

'выпускник'

);

ALTER TYPE timetable_courses."St_status" OWNER TO postgres;

--

-- TOC entry 887 (class 1247 OID 16682)

-- Name: Students_status; Type: TYPE; Schema: timetable_courses;
Owner: postgres

--

```
CREATE TYPE timetable_courses."Students_status" AS ENUM (  
  
    'обучается',  
  
    'окончил обучение',  
  
    'расформирован'  
  
);
```

```
ALTER TYPE timetable_courses."Students_status" OWNER TO  
postgres;
```

```
--
```

```
-- TOC entry 901 (class 1247 OID 16737)
```

```
-- Name: Teacher_status; Type: TYPE; Schema: timetable_courses;  
Owner: postgres
```

```
--
```

```
CREATE TYPE timetable_courses."Teacher_status" AS ENUM (  
  
    'в отпуске',  
  
    'работает',
```


'уволен'

);

ALTER TYPE timetable_courses."Teacher_status" OWNER TO
postgres;

--

-- TOC entry 904 (class 1247 OID 16744)

-- Name: Work_status; Type: TYPE; Schema: timetable_courses;
Owner: postgres

--

CREATE TYPE timetable_courses."Work_status" AS ENUM (

'основное место работы',

'внешнее совмещение'

);

```
ALTER TYPE timetable_courses."Work_status" OWNER TO postgres;

SET default_tablespace = "";

SET default_table_access_method = heap;

--
-- TOC entry 214 (class 1259 OID 16445)
-- Name: Admission_year; Type: TABLE; Schema: timetable_courses;
-- Owner: postgres
--

CREATE TABLE timetable_courses."Admission_year" (

    "ID_year_admission" integer NOT NULL,

    "From" date NOT NULL,

    "To" date NOT NULL,

    "Number_of_admission_year" integer NOT NULL,

    "a_ID_programme" integer NOT NULL,

    "Students_status" timetable_courses."Students_status" NOT NULL,
```

```
"Document_type" timetable_courses."Document_type" NOT NULL  
);
```

```
ALTER TABLE timetable_courses."Admission_year" OWNER TO  
postgres;
```

```
--
```

```
-- TOC entry 227 (class 1259 OID 16853)
```

```
-- Name: Admission_year_ID_year_admission_seq; Type: SEQUENCE;  
Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE timetable_courses."Admission_year" ALTER  
COLUMN "ID_year_admission" ADD GENERATED BY DEFAULT  
AS IDENTITY (
```

```
    SEQUENCE NAME
```

```
    timetable_courses."Admission_year_ID_year_admission_seq"
```

```
    START WITH 1
```

```
    INCREMENT BY 1
```

NO MINVALUE

NO MAXVALUE

CACHE 1

);

--

-- TOC entry 222 (class 1259 OID 16759)

-- Name: Can_teach; Type: TABLE; Schema: timetable_courses;

Owner: postgres

--

CREATE TABLE timetable_courses."Can_teach" (

"ID_can_teach" integer NOT NULL,

"c_ID_passport" character varying(10) NOT NULL,

"c_ID_discipline" integer NOT NULL

);

```
ALTER TABLE timetable_courses."Can_teach" OWNER TO postgres;

--

-- TOC entry 211 (class 1259 OID 16407)

-- Name: Class; Type: TABLE; Schema: timetable_courses; Owner:
postgres

--

CREATE TABLE timetable_courses."Class" (

    "ID_class" integer NOT NULL,

    "Number_class" integer NOT NULL,

    "c_ID_division" integer NOT NULL,

    "Class_type" timetable_courses."Class_type" NOT NULL,

    "Capacity" timetable_courses."Capacity" NOT NULL

);

ALTER TABLE timetable_courses."Class" OWNER TO postgres;
```

--

-- TOC entry 212 (class 1259 OID 16433)

-- Name: Discipline; Type: TABLE; Schema: timetable_courses;

Owner: postgres

--

CREATE TABLE timetable_courses."Discipline" (

"ID_discipline" integer NOT NULL,

"Hours_of_lectures" integer NOT NULL,

"Hours_of_practice" integer NOT NULL,

"Hours_of_laboratory" integer NOT NULL,

"Sum_hours" integer NOT NULL,

"Name_of_discipline" character varying(50) NOT NULL,

"Attestation_type" timetable_courses."Attestation_type" NOT NULL

);

ALTER TABLE timetable_courses."Discipline" OWNER TO postgres;

--

-- TOC entry 225 (class 1259 OID 16844)

-- Name: Discipline_ID_discipline_seq; Type: SEQUENCE; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE timetable_courses."Discipline" ALTER COLUMN
"ID_discipline" ADD GENERATED BY DEFAULT AS IDENTITY (

SEQUENCE NAME

timetable_courses."Discipline_ID_discipline_seq"

START WITH 1

INCREMENT BY 1

NO MINVALUE

NO MAXVALUE

CACHE 1

);

--

-- TOC entry 220 (class 1259 OID 16716)

-- Name: Discipline_of_programme; Type: TABLE; Schema:
timetable_courses; Owner: postgres

--

CREATE TABLE timetable_courses."Discipline_of_programme" (

"ID_discipline_of_pr" integer NOT NULL,

"d_ID_programme" integer NOT NULL,

"d_ID_discipline" integer NOT NULL

);

ALTER TABLE timetable_courses."Discipline_of_programme"
OWNER TO postgres;

--

-- TOC entry 210 (class 1259 OID 16400)

-- Name: Division; Type: TABLE; Schema: timetable_courses; Owner:
postgres

--

CREATE TABLE timetable_courses."Division" (

"ID_division" integer NOT NULL,

"Name_of_division" character varying(40),

"Address" character varying(100) NOT NULL

);

ALTER TABLE timetable_courses."Division" OWNER TO postgres;

--

-- TOC entry 217 (class 1259 OID 16598)

-- Name: Division_ID_division_seq; Type: SEQUENCE; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE timetable_courses."Division" ALTER COLUMN

"ID_division" ADD GENERATED BY DEFAULT AS IDENTITY (

```
SEQUENCE NAME timetable_courses."Division_ID_division_seq"  
  
START WITH 1  
  
INCREMENT BY 1  
  
NO MINVALUE  
  
NO MAXVALUE  
  
CACHE 1  
  
);
```

```
--
```

```
-- TOC entry 215 (class 1259 OID 16459)
```

```
-- Name: Group; Type: TABLE; Schema: timetable_courses; Owner:  
postgres
```

```
--
```

```
CREATE TABLE timetable_courses."Group" (  
  
    "Group_number" integer NOT NULL,  
  
    "g_ID_year_admission" integer NOT NULL,  
  
    "Group_status" timetable_courses."Group_status" NOT NULL
```

);

ALTER TABLE timetable_courses."Group" OWNER TO postgres;

--

-- TOC entry 221 (class 1259 OID 16731)

-- Name: Is_in_division; Type: TABLE; Schema: timetable_courses;
Owner: postgres

--

CREATE TABLE timetable_courses."Is_in_division" (

"ID_in_division" integer NOT NULL,

"Teacher_status" timetable_courses."Teacher_status" NOT NULL,

"Work_status" timetable_courses."Work_status" NOT NULL,

"IS_ID_division" integer NOT NULL,

"IS_ID_passport" character varying(10) NOT NULL

);

```
ALTER TABLE timetable_courses."Is_in_division" OWNER TO  
postgres;
```

```
--
```

```
-- TOC entry 223 (class 1259 OID 16781)
```

```
-- Name: Is_in_group; Type: TABLE; Schema: timetable_courses;  
Owner: postgres
```

```
--
```

```
CREATE TABLE timetable_courses."Is_in_group" (
```

```
    "ID_in_group" integer NOT NULL,
```

```
    "Document_number" integer,
```

```
    "Student_status" timetable_courses."St_status" NOT NULL,
```

```
    "I_group_number" integer NOT NULL,
```

```
    "I_ID_passport" character varying(10) NOT NULL
```

```
);
```

```
ALTER TABLE timetable_courses."Is_in_group" OWNER TO  
postgres;
```

```
--
```

```
-- TOC entry 224 (class 1259 OID 16796)
```

```
-- Name: Lesson; Type: TABLE; Schema: timetable_courses; Owner:  
postgres
```

```
--
```

```
CREATE TABLE timetable_courses."Lesson" (
```

```
    "ID_lesson" integer NOT NULL,
```

```
    "L_group_number" integer NOT NULL,
```

```
    "L_ID_class" integer NOT NULL,
```

```
    "L_ID_passport" character varying(10) NOT NULL,
```

```
    "L_ID_discipline_of_pr" integer NOT NULL,
```

```
    "Lesson_type" timetable_courses."Lesson_type" NOT NULL,
```

```
    "Lesson_number" integer NOT NULL,
```

```
    "Date_of_lessons" date NOT NULL
```

```
);
```

```
ALTER TABLE timetable_courses."Lesson" OWNER TO postgres;
```

```
--
```

```
-- TOC entry 213 (class 1259 OID 16440)
```

```
-- Name: Programme; Type: TABLE; Schema: timetable_courses;  
Owner: postgres
```

```
--
```

```
CREATE TABLE timetable_courses."Programme" (
```

```
    "Cost" integer,
```

```
    "ID_programme" integer NOT NULL,
```

```
    "Programme_type" timetable_courses."Programme_type" NOT  
NULL,
```

```
    "Name_of_programme" character varying(50) NOT NULL
```

```
);
```

```
ALTER TABLE timetable_courses."Programme" OWNER TO  
postgres;
```

```
--
```

```
-- TOC entry 226 (class 1259 OID 16847)
```

```
-- Name: Programme_ID_programme_seq; Type: SEQUENCE;  
Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE timetable_courses."Programme" ALTER COLUMN  
"ID_programme" ADD GENERATED BY DEFAULT AS IDENTITY (
```

```
    SEQUENCE NAME
```

```
    timetable_courses."Programme_ID_programme_seq"
```

```
    START WITH 1
```

```
    INCREMENT BY 1
```

```
    NO MINVALUE
```

```
    NO MAXVALUE
```

```
    CACHE 1
```

```
);
```

--

-- TOC entry 216 (class 1259 OID 16471)

-- Name: Sick_and_vacation_leaves; Type: TABLE; Schema:
timetable_courses; Owner: postgres

--

CREATE TABLE timetable_courses."Sick_and_vacation_leaves" (

"ID_absense" integer NOT NULL,

"From" date NOT NULL,

"To" date NOT NULL,

"Cause_of_absence" timetable_courses."Cause_of_absence" NOT
NULL,

"s_ID_passport" character varying(10) NOT NULL

);

ALTER TABLE timetable_courses."Sick_and_vacation_leaves"
OWNER TO postgres;

--

-- TOC entry 228 (class 1259 OID 16858)

-- Name: Sick_and_vacation_leaves_ID_absense_seq; Type:
SEQUENCE; Schema: timetable_courses; Owner: postgres

--

ALTER TABLE timetable_courses."Sick_and_vacation_leaves"
ALTER COLUMN "ID_absense" ADD GENERATED BY DEFAULT
AS IDENTITY (

SEQUENCE NAME

timetable_courses."Sick_and_vacation_leaves_ID_absense_seq"

START WITH 1

INCREMENT BY 1

NO MINVALUE

NO MAXVALUE

CACHE 1

);

--

-- TOC entry 219 (class 1259 OID 16653)

-- Name: Student; Type: TABLE; Schema: timetable_courses; Owner:
postgres

--

```
CREATE TABLE timetable_courses."Student" (  
  
    "ID_passport" character varying(10) NOT NULL,  
  
    "Full_name" character varying(50) NOT NULL,  
  
    "Contacts" character varying(50) NOT NULL  
  
);
```

```
ALTER TABLE timetable_courses."Student" OWNER TO postgres;
```

--

-- TOC entry 218 (class 1259 OID 16647)

-- Name: Teacher; Type: TABLE; Schema: timetable_courses; Owner:
postgres

--

```
CREATE TABLE timetable_courses."Teacher" (  
  
    "ID_passport" character varying(10) NOT NULL,  
  
    "Full_name" character varying(50) NOT NULL,  
  
    "Position" timetable_courses."Position" NOT NULL  
  
);
```

```
ALTER TABLE timetable_courses."Teacher" OWNER TO postgres;
```

--

-- TOC entry 3482 (class 0 OID 16445)

-- Dependencies: 214

-- Data for Name: Admission_year; Type: TABLE DATA; Schema:
timetable_courses; Owner: postgres

--

COPY timetable_courses."Admission_year" ("ID_year_admission",
"From", "To", "Number_of_admission_year", "a_ID_programme",
"Students_status", "Document_type") FROM stdin;

102018	2018-09-01	2023-08-31	60	4003	обучается
ДИПЛОМ					

102019	2019-09-01	2021-08-31	55	4002	окончил
обучение ДИПЛОМ					

102022	2022-01-01	2022-09-01	25	4004	окончил
обучение сертификат					

102021	2021-09-01	2025-01-01	30	4005	обучается
ДИПЛОМ					

102020	2020-09-01	2024-01-08	35	4001	обучается
ДИПЛОМ					

\.

--

-- TOC entry 3490 (class 0 OID 16759)

-- Dependencies: 222

-- Data for Name: Can_teach; Type: TABLE DATA; Schema:
timetable_courses; Owner: postgres

--

```
COPY timetable_courses."Can_teach" ("ID_can_teach",  
"c_ID_passport", "c_ID_discipline") FROM stdin;
```

```
10027      4018775180      3005
```

```
10026      3018485570      3004
```

```
10025      4012783672      3003
```

```
10024      4017783319      3002
```

```
10023      4018785670      3001
```

```
\.
```

--

-- TOC entry 3479 (class 0 OID 16407)

-- Dependencies: 211

-- Data for Name: Class; Type: TABLE DATA; Schema:
timetable_courses; Owner: postgres

--

```
COPY timetable_courses."Class" ("ID_class", "Number_class",  
"c_ID_division", "Class_type", "Capacity") FROM stdin;
```

```
1001 327 1    компьютерный класс    до 20 человек
```

```
1002 328 2    учебная    до 50 человек
```

```
1003 329 3    лекционная    до 100 человек
```

```
1004 330 4    лаборатория    до 20 человек
```

```
1005 331 5    учебная    до 50 человек
```

```
\.
```

```
--
```

```
-- TOC entry 3480 (class 0 OID 16433)
```

```
-- Dependencies: 212
```

```
-- Data for Name: Discipline; Type: TABLE DATA; Schema:  
timetable_courses; Owner: postgres
```

```
--
```

```
COPY timetable_courses."Discipline" ("ID_discipline",  
"Hours_of_lectures", "Hours_of_practice", "Hours_of_laboratory",  
"Sum_hours", "Name_of_discipline", "Attestation_type") FROM stdin;
```

3005	64	64	70	216	Математика	экзамен
3004	20	10	16	72	Основы права	зачет
3002	48	30	36	144	Теория организации и управления	экзамен
3003	32	32	42	180	Основы бизнеса	диф. зачет
3001	40	42	16	108	Управление ресурсами	экзамен

\.

--

-- TOC entry 3488 (class 0 OID 16716)

-- Dependencies: 220

-- Data for Name: Discipline_of_programme; Type: TABLE DATA;
Schema: timetable_courses; Owner: postgres

--

```
COPY timetable_courses."Discipline_of_programme"
("ID_discipline_of_pr", "d_ID_programme", "d_ID_discipline") FROM
stdin;
```

86004 4001 3002

86003 4001 3001

86002 4005 3005

86001 4001 3005

\\.

--

-- TOC entry 3478 (class 0 OID 16400)

-- Dependencies: 210

-- Data for Name: Division; Type: TABLE DATA; Schema:
timetable_courses; Owner: postgres

--

COPY timetable_courses."Division" ("ID_division",
"Name_of_division", "Address") FROM stdin;

1 ГК Кронверский пр. 1

2 Ломоносова ул.Ломоносова д.8

3 Биржевая Биржевая линия д.14

4 Чайковского ул.Чайковского д.11

5 Гривцова пер. Гривцова д.14

\.

--

-- TOC entry 3483 (class 0 OID 16459)

-- Dependencies: 215

-- Data for Name: Group; Type: TABLE DATA; Schema:
timetable_courses; Owner: postgres

--

COPY timetable_courses."Group" ("Group_number",
"g_ID_year_admission", "Group_status") FROM stdin;

1262018 102018 обучается

1212019 102019 окончила обучение

1522022 102022 окончила обучение

1312021 102021 обучается

1112020 102020 обучается

\.

--

-- TOC entry 3489 (class 0 OID 16731)

-- Dependencies: 221

-- Data for Name: Is_in_division; Type: TABLE DATA; Schema:
timetable_courses; Owner: postgres

--

COPY timetable_courses."Is_in_division" ("ID_in_division",
"Teacher_status", "Work_status", "IS_ID_division", "IS_ID_passport")
FROM stdin;

10034	работает	основное место работы	1	4018775180
20021	работает	основное место работы	2	4018785670
30042	работает	основное место работы	3	3018485570
40067	работает	внешнее совмещение	4	4012783672
50012	работает	внешнее совмещение	5	4017783319

\\.

--

-- TOC entry 3491 (class 0 OID 16781)

-- Dependencies: 223

-- Data for Name: Is_in_group; Type: TABLE DATA; Schema:
timetable_courses; Owner: postgres

--

COPY timetable_courses."Is_in_group" ("ID_in_group",
"Document_number", "Student_status", "I_group_number",
"I_ID_passport") FROM stdin;

206640	11100238	учится	1112020	4016984518
--------	----------	--------	---------	------------

206639	11100237	учится	1112020	4014984518
--------	----------	--------	---------	------------

206638	11100236	учится	1312021	4012682518
--------	----------	--------	---------	------------

206637	11100235	учится	1262018	4011984520
--------	----------	--------	---------	------------

206636	11100234	учится	1112020	4016989999
--------	----------	--------	---------	------------

\\.

--

-- TOC entry 3492 (class 0 OID 16796)

-- Dependencies: 224

-- Data for Name: Lesson; Type: TABLE DATA; Schema:
timetable_courses; Owner: postgres

--

COPY timetable_courses."Lesson" ("ID_lesson", "L_group_number",
"L_ID_class", "L_ID_passport", "L_ID_discipline_of_pr",
"Lesson_type", "Lesson_number", "Date_of_lessons") FROM stdin;

140031	1112020	1002 4018785670	86003	практика	1
	2023-02-02				

140032	1262018	1002 4018775180	86002	лекция	2
	2023-03-02				

140033	1312021	1005 4018775180	86001	лабораторная	
3	2023-01-02				

\.

--

-- TOC entry 3481 (class 0 OID 16440)

-- Dependencies: 213

-- Data for Name: Programme; Type: TABLE DATA; Schema:
timetable_courses; Owner: postgres

--

COPY timetable_courses."Programme" ("Cost", "ID_programme",
"Programme_type", "Name_of_programme") FROM stdin;

32000 4005 бакалавриат Бизнес-информатика

56000 4004 ДПО Аналитик данных

250000 4003 специалитет Астрономия

140000 4002 магистратура Инноватика

120000 4001 бакалавриат Филология

\\.

--

-- TOC entry 3484 (class 0 OID 16471)

-- Dependencies: 216

-- Data for Name: Sick_and_vacation_leaves; Type: TABLE DATA;
Schema: timetable_courses; Owner: postgres

--

COPY timetable_courses."Sick_and_vacation_leaves" ("ID_absense",
"From", "To", "Cause_of_absence", "s_ID_passport") FROM stdin;

68863	2023-02-20	2023-03-01	отпуск	4017783319
-------	------------	------------	--------	------------

68862	2023-02-01	2023-02-15	больничный	
	4012783672			

68861	2023-01-02	2023-01-16	больничный	
	3018485570			

\\.

--

-- TOC entry 3487 (class 0 OID 16653)

-- Dependencies: 219

-- Data for Name: Student; Type: TABLE DATA; Schema:
timetable_courses; Owner: postgres

--

```
COPY timetable_courses."Student" ("ID_passport", "Full_name",  
"Contacts") FROM stdin;
```

```
4011984520    Сахаров Дмитрий Иванович    8-962-789-67-52
```

```
4012682518    Николаева Алла Викторовна    8-981-666-65-35
```

```
4016989999    Левина Ольга Александровна    8-955-997-45-90
```

```
4014984518    Антонов Николай Петрович    8-911-837-45-33
```

```
4016984518    Максимова Ирина Владимировна    8-921-837-45-68
```

```
\.
```

```
--
```

```
-- TOC entry 3486 (class 0 OID 16647)
```

```
-- Dependencies: 218
```

```
-- Data for Name: Teacher; Type: TABLE DATA; Schema:  
timetable_courses; Owner: postgres
```

```
--
```

```
COPY timetable_courses."Teacher" ("ID_passport", "Full_name",  
"Position") FROM stdin;
```

```
4012783672    Анисимов Денис Петрович    лаборант
```

```
4018775180    Петров Николай Владимирович    старший  
преподаватель
```

```
3018485570    Егорова Анастасия Антоновна преподаватель
```

```
4018785670    Смирнова Елена Васильевна    ассистент
```

```
4017783319    Иванов Иван Петрович    преподаватель
```

```
\.
```

```
--
```

```
-- TOC entry 3502 (class 0 OID 0)
```

```
-- Dependencies: 227
```

```
-- Name: Admission_year_ID_year_admission_seq; Type: SEQUENCE  
SET; Schema: timetable_courses; Owner: postgres
```

```
--
```


SELECT

```
pg_catalog.setval('timetable_courses."Admission_year_ID_year_admission_seq"', 1, false);
```

--

-- TOC entry 3503 (class 0 OID 0)

-- Dependencies: 225

-- Name: Discipline_ID_discipline_seq; Type: SEQUENCE SET;

Schema: timetable_courses; Owner: postgres

--

SELECT

```
pg_catalog.setval('timetable_courses."Discipline_ID_discipline_seq"', 1, false);
```

--

-- TOC entry 3504 (class 0 OID 0)

-- Dependencies: 217

-- Name: Division_ID_division_seq; Type: SEQUENCE SET; Schema:
timetable_courses; Owner: postgres

--

SELECT

pg_catalog.setval('timetable_courses.Division_ID_division_seq', 1,
true);

--

-- TOC entry 3505 (class 0 OID 0)

-- Dependencies: 226

-- Name: Programme_ID_programme_seq; Type: SEQUENCE SET;
Schema: timetable_courses; Owner: postgres

--

SELECT

pg_catalog.setval('timetable_courses.Programme_ID_programme_seq'
, 1, false);

--

-- TOC entry 3506 (class 0 OID 0)

-- Dependencies: 228

-- Name: Sick_and_vacation_leaves_ID_absense_seq; Type:
SEQUENCE SET; Schema: timetable_courses; Owner: postgres

--

SELECT

pg_catalog.setval('timetable_courses."Sick_and_vacation_leaves_ID_absense_seq"', 1, false);

--

-- TOC entry 3269 (class 2606 OID 16637)

-- Name: Admission_year Admission_year_check; Type: CHECK
CONSTRAINT; Schema: timetable_courses; Owner: postgres

--

ALTER TABLE timetable_courses."Admission_year"

```
ADD CONSTRAINT "Admission_year_check" CHECK (("From" <
"To")) NOT VALID;
```

```
--
```

```
-- TOC entry 3316 (class 2606 OID 16763)
```

```
-- Name: Can_teach Can_teach_pkey1; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Can_teach"
```

```
ADD CONSTRAINT "Can_teach_pkey1" PRIMARY KEY
("ID_can_teach");
```

```
--
```

```
-- TOC entry 3282 (class 2606 OID 16413)
```

```
-- Name: Class Class_pkey; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Class"
```

```
ADD CONSTRAINT "Class_pkey" PRIMARY KEY ("ID_class");
```

```
--
```

```
-- TOC entry 3267 (class 2606 OID 16850)
```

```
-- Name: Programme Cost; Type: CHECK CONSTRAINT; Schema:  
timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE timetable_courses."Programme"
```

```
ADD CONSTRAINT "Cost" CHECK (("Cost" >= 0)) NOT VALID;
```

```
--
```

```
-- TOC entry 3261 (class 2606 OID 16631)
```

```
-- Name: Discipline Discipline_Name_of_discipline_check; Type:  
CHECK CONSTRAINT; Schema: timetable_courses; Owner: postgres
```

--

ALTER TABLE timetable_courses."Discipline"

ADD CONSTRAINT "Discipline_Name_of_discipline_check"
CHECK ((length(("Name_of_discipline")::text) > 5)) NOT VALID;

--

-- TOC entry 3312 (class 2606 OID 16720)

-- Name: Discipline_of_programme Discipline_of_programme_pkey1;
Type: CONSTRAINT; Schema: timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Discipline_of_programme"

ADD CONSTRAINT "Discipline_of_programme_pkey1" PRIMARY
KEY ("ID_discipline_of_pr");

--

-- TOC entry 3288 (class 2606 OID 16439)

-- Name: Discipline Discipline_pkey; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Discipline"

ADD CONSTRAINT "Discipline_pkey" PRIMARY KEY
("ID_discipline");

--

-- TOC entry 3278 (class 2606 OID 16406)

-- Name: Division Division_pkey; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Division"

ADD CONSTRAINT "Division_pkey" PRIMARY KEY
("ID_division");

--

-- TOC entry 3318 (class 2606 OID 16873)

-- Name: Is_in_group Document_number; Type: CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Is_in_group"

ADD CONSTRAINT "Document_number" UNIQUE
("Document_number");

--

-- TOC entry 3298 (class 2606 OID 16857)

-- Name: Group Group_number; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Group"


```
ADD CONSTRAINT "Group_number" UNIQUE ("Group_number");

--

-- TOC entry 3300 (class 2606 OID 16465)

-- Name: Group Group_pkey; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Group"

    ADD CONSTRAINT "Group_pkey" PRIMARY KEY
("Group_number");

--

-- TOC entry 3262 (class 2606 OID 16634)

-- Name: Discipline Hours_of_laboratory; Type: CHECK
CONSTRAINT; Schema: timetable_courses; Owner: postgres

--
```

```
ALTER TABLE timetable_courses."Discipline"
```

```
    ADD CONSTRAINT "Hours_of_laboratory" CHECK  
    (("Hours_of_laboratory" > 0)) NOT VALID;
```

```
--
```

```
-- TOC entry 3263 (class 2606 OID 16632)
```

```
-- Name: Discipline Hours_of_lectures; Type: CHECK CONSTRAINT;  
Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE timetable_courses."Discipline"
```

```
    ADD CONSTRAINT "Hours_of_lectures" CHECK  
    (("Hours_of_lectures" > 0)) NOT VALID;
```

```
--
```

```
-- TOC entry 3264 (class 2606 OID 16633)
```

-- Name: Discipline Hours_of_practice; Type: CHECK CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

ALTER TABLE timetable_courses."Discipline"

ADD CONSTRAINT "Hours_of_practice" CHECK
(("Hours_of_practice" > 0)) NOT VALID;

--

-- TOC entry 3302 (class 2606 OID 16860)

-- Name: Sick_and_vacation_leaves ID_absense; Type: CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Sick_and_vacation_leaves"

ADD CONSTRAINT "ID_absense" UNIQUE ("ID_absense");

--

-- TOC entry 3284 (class 2606 OID 16609)

-- Name: Class ID_class; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Class"

ADD CONSTRAINT "ID_class" UNIQUE ("ID_class");

--

-- TOC entry 3290 (class 2606 OID 16846)

-- Name: Discipline ID_discipline; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Discipline"

ADD CONSTRAINT "ID_discipline" UNIQUE ("ID_discipline");

--

-- TOC entry 3280 (class 2606 OID 16600)

-- Name: Division ID_division; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Division"

ADD CONSTRAINT "ID_division" UNIQUE ("ID_division");

--

-- TOC entry 3306 (class 2606 OID 16839)

-- Name: Teacher ID_passport; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Teacher"

ADD CONSTRAINT "ID_passport" UNIQUE ("ID_passport");

--

-- TOC entry 3292 (class 2606 OID 16849)

-- Name: Programme ID_programme; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Programme"

ADD CONSTRAINT "ID_programme" UNIQUE
("ID_programme");

--

-- TOC entry 3296 (class 2606 OID 16451)

-- Name: Admission_year ID_year_admission; Type: CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

```
ALTER TABLE ONLY timetable_courses."Admission_year"
```

```
    ADD CONSTRAINT "ID_year_admission" PRIMARY KEY  
    ("ID_year_admission");
```

```
--
```

```
-- TOC entry 3314 (class 2606 OID 16735)
```

```
-- Name: Is_in_division Is_in_division_pkey1; Type: CONSTRAINT;  
Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Is_in_division"
```

```
    ADD CONSTRAINT "Is_in_division_pkey1" PRIMARY KEY  
    ("ID_in_division");
```

```
--
```

```
-- TOC entry 3320 (class 2606 OID 16785)
```

```
-- Name: Is_in_group Is_in_group_pkey1; Type: CONSTRAINT;  
Schema: timetable_courses; Owner: postgres
```

--

ALTER TABLE ONLY timetable_courses."Is_in_group"

ADD CONSTRAINT "Is_in_group_pkey1" PRIMARY KEY
("ID_in_group");

--

-- TOC entry 3268 (class 2606 OID 16851)

-- Name: Programme Len_Name_of_programme; Type: CHECK
CONSTRAINT; Schema: timetable_courses; Owner: postgres

--

ALTER TABLE timetable_courses."Programme"

ADD CONSTRAINT "Len_Name_of_programme" CHECK
((length(("Name_of_programme")::text) > 5)) NOT VALID;

--

-- TOC entry 3322 (class 2606 OID 16800)

-- Name: Lesson Lesson_pkey1; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Lesson"

ADD CONSTRAINT "Lesson_pkey1" PRIMARY KEY
("ID_lesson");

--

-- TOC entry 3286 (class 2606 OID 16607)

-- Name: Class Number_class; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Class"

ADD CONSTRAINT "Number_class" UNIQUE ("Number_class");

--

-- TOC entry 3270 (class 2606 OID 16854)

-- Name: Admission_year Number_of_admission_year_check; Type:
CHECK CONSTRAINT; Schema: timetable_courses; Owner: postgres

--

ALTER TABLE timetable_courses."Admission_year"

ADD CONSTRAINT "Number_of_admission_year_check" CHECK
(("Number_of_admission_year" > 3)) NOT VALID;

--

-- TOC entry 3271 (class 2606 OID 16855)

-- Name: Admission_year Number_of_admission_year_check2; Type:
CHECK CONSTRAINT; Schema: timetable_courses; Owner: postgres

--

ALTER TABLE timetable_courses."Admission_year"

```
ADD CONSTRAINT "Number_of_admission_year_check2" CHECK
(("Number_of_admission_year" < 100)) NOT VALID;
```

```
--
```

```
-- TOC entry 3294 (class 2606 OID 16453)
```

```
-- Name: Programme Programme_pkey; Type: CONSTRAINT;
Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Programme"
```

```
ADD CONSTRAINT "Programme_pkey" PRIMARY KEY
("ID_programme");
```

```
--
```

```
-- TOC entry 3304 (class 2606 OID 16477)
```

```
-- Name: Sick_and_vacation_leaves Sick_and_vacation_leaves_pkey;
Type: CONSTRAINT; Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Sick_and_vacation_leaves"
```

```
    ADD CONSTRAINT "Sick_and_vacation_leaves_pkey" PRIMARY  
KEY ("ID_absense");
```

```
--
```

```
-- TOC entry 3310 (class 2606 OID 16657)
```

```
-- Name: Student Student_pkey1; Type: CONSTRAINT; Schema:  
timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Student"
```

```
    ADD CONSTRAINT "Student_pkey1" PRIMARY KEY  
("ID_passport");
```

```
--
```

```
-- TOC entry 3265 (class 2606 OID 16635)
```

```
-- Name: Discipline Sum_hours; Type: CHECK CONSTRAINT;  
Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE timetable_courses."Discipline"
```

```
    ADD CONSTRAINT "Sum_hours" CHECK (("Sum_hours" > 0))  
NOT VALID;
```

```
--
```

```
-- TOC entry 3266 (class 2606 OID 16636)
```

```
-- Name: Discipline Sum_hours2; Type: CHECK CONSTRAINT;  
Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE timetable_courses."Discipline"
```

```
    ADD CONSTRAINT "Sum_hours2" CHECK (("Sum_hours" >  
(("Hours_of_lectures" + "Hours_of_practice") +  
"Hours_of_laboratory")))) NOT VALID;
```

--

-- TOC entry 3308 (class 2606 OID 16651)

-- Name: Teacher Teacher_pkey1; Type: CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Teacher"

ADD CONSTRAINT "Teacher_pkey1" PRIMARY KEY
("ID_passport");

--

-- TOC entry 3272 (class 2606 OID 16861)

-- Name: Sick_and_vacation_leaves date_from_to; Type: CHECK
CONSTRAINT; Schema: timetable_courses; Owner: postgres

--

ALTER TABLE timetable_courses."Sick_and_vacation_leaves"

```
ADD CONSTRAINT date_from_to CHECK (("From" < "To")) NOT  
VALID;
```

```
--
```

```
-- TOC entry 3260 (class 2606 OID 16603)
```

```
-- Name: Division no_symb; Type: CHECK CONSTRAINT; Schema:  
timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE timetable_courses."Division"
```

```
ADD CONSTRAINT no_symb CHECK (((("Name_of_division")::text  
~ '[a-zA-ZA-Яa-я, -]'::text)) NOT VALID;
```

```
--
```

```
-- TOC entry 3273 (class 2606 OID 16841)
```

```
-- Name: Teacher no_symb; Type: CHECK CONSTRAINT; Schema:  
timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE timetable_courses."Teacher"
```

```
    ADD CONSTRAINT no_symb CHECK (((("Full_name")::text ~ '[a-  
zA-Z, -]':::text)) NOT VALID;
```

```
--
```

```
-- TOC entry 3275 (class 2606 OID 16842)
```

```
-- Name: Student no_symb; Type: CHECK CONSTRAINT; Schema:  
timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE timetable_courses."Student"
```

```
    ADD CONSTRAINT no_symb CHECK (((("Full_name")::text ~ '[a-  
zA-Z, -]':::text)) NOT VALID;
```

```
--
```

```
-- TOC entry 3274 (class 2606 OID 16840)
```


-- Name: Teacher only_num_10; Type: CHECK CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

ALTER TABLE timetable_courses."Teacher"

ADD CONSTRAINT only_num_10 CHECK (((("ID_passport")::text
~ '[0-9]{10}'::text)) NOT VALID;

--

-- TOC entry 3276 (class 2606 OID 16843)

-- Name: Student only_num_10; Type: CHECK CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

ALTER TABLE timetable_courses."Student"

ADD CONSTRAINT only_num_10 CHECK (((("ID_passport")::text
~ '[0-9]{10}'::text)) NOT VALID;

--

-- TOC entry 3328 (class 2606 OID 16726)

-- Name: Discipline_of_programme d_ID_discipline; Type: FK
CONSTRAINT; Schema: timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Discipline_of_programme"

ADD CONSTRAINT "d_ID_discipline" FOREIGN KEY
("d_ID_discipline") REFERENCES
timetable_courses."Discipline"("ID_discipline") NOT VALID;

--

-- TOC entry 3327 (class 2606 OID 16721)

-- Name: Discipline_of_programme d_ID_programme; Type: FK
CONSTRAINT; Schema: timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Discipline_of_programme"

```
ADD CONSTRAINT "d_ID_programme" FOREIGN KEY
("d_ID_programme") REFERENCES
timetable_courses."Programme"("ID_programme") NOT VALID;
```

```
--
```

```
-- TOC entry 3323 (class 2606 OID 16428)
```

```
-- Name: Class fk_ID_division; Type: FK CONSTRAINT; Schema:
timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Class"
```

```
ADD CONSTRAINT "fk_ID_division" FOREIGN KEY
("c_ID_division") REFERENCES
timetable_courses."Division"("ID_division") NOT VALID;
```

```
--
```

```
-- TOC entry 3324 (class 2606 OID 16454)
```

```
-- Name: Admission_year fk_ID_programme; Type: FK  
CONSTRAINT; Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Admission_year"
```

```
    ADD CONSTRAINT "fk_ID_programme" FOREIGN KEY  
    ("a_ID_programme") REFERENCES  
    timetable_courses."Programme"("ID_programme") NOT VALID;
```

```
--
```

```
-- TOC entry 3325 (class 2606 OID 16466)
```

```
-- Name: Group fk_ID_year_admission; Type: FK CONSTRAINT;  
Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Group"
```

```
    ADD CONSTRAINT "fk_ID_year_admission" FOREIGN KEY  
    ("g_ID_year_admission") REFERENCES  
    timetable_courses."Admission_year"("ID_year_admission");
```

--

-- TOC entry 3329 (class 2606 OID 16749)

-- Name: Is_in_division fk_IS_ID_division; Type: FK CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Is_in_division"

ADD CONSTRAINT "fk_IS_ID_division" FOREIGN KEY
("IS_ID_division") REFERENCES
timetable_courses."Division"("ID_division") NOT VALID;

--

-- TOC entry 3330 (class 2606 OID 16754)

-- Name: Is_in_division fk_IS_ID_passport; Type: FK CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

```
ALTER TABLE ONLY timetable_courses."Is_in_division"
```

```
    ADD CONSTRAINT "fk_IS_ID_passport" FOREIGN KEY  
("IS_ID_passport") REFERENCES  
timetable_courses."Teacher"("ID_passport") NOT VALID;
```

```
--
```

```
-- TOC entry 3333 (class 2606 OID 16791)
```

```
-- Name: Is_in_group fk_I_ID_passport; Type: FK CONSTRAINT;  
Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Is_in_group"
```

```
    ADD CONSTRAINT "fk_I_ID_passport" FOREIGN KEY  
("I_ID_passport") REFERENCES  
timetable_courses."Student"("ID_passport");
```

```
--
```

```
-- TOC entry 3334 (class 2606 OID 16786)
```

-- Name: Is_in_group fk_I_group_number; Type: FK CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Is_in_group"

ADD CONSTRAINT "fk_I_group_number" FOREIGN KEY
("I_group_number") REFERENCES
timetable_courses."Group"("Group_number");

--

-- TOC entry 3335 (class 2606 OID 16814)

-- Name: Lesson fk_L_ID_class; Type: FK CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Lesson"

ADD CONSTRAINT "fk_L_ID_class" FOREIGN KEY
("L_ID_class") REFERENCES timetable_courses."Class"("ID_class")
NOT VALID;

--

-- TOC entry 3336 (class 2606 OID 16824)

-- Name: Lesson fk_L_ID_discipline_of_pr; Type: FK CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Lesson"

ADD CONSTRAINT "fk_L_ID_discipline_of_pr" FOREIGN KEY
("L_ID_discipline_of_pr") REFERENCES
timetable_courses."Discipline_of_programme"("ID_discipline_of_pr")
NOT VALID;

--

-- TOC entry 3337 (class 2606 OID 16819)

-- Name: Lesson fk_L_ID_passport; Type: FK CONSTRAINT; Schema:
timetable_courses; Owner: postgres

--


```
ALTER TABLE ONLY timetable_courses."Lesson"
```

```
    ADD CONSTRAINT "fk_L_ID_passport" FOREIGN KEY  
    ("L_ID_passport") REFERENCES  
    timetable_courses."Teacher"("ID_passport") NOT VALID;
```

```
--
```

```
-- TOC entry 3338 (class 2606 OID 16809)
```

```
-- Name: Lesson fk_L_group_number; Type: FK CONSTRAINT;  
Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Lesson"
```

```
    ADD CONSTRAINT "fk_L_group_number" FOREIGN KEY  
    ("L_group_number") REFERENCES  
    timetable_courses."Group"("Group_number") NOT VALID;
```

```
--
```

-- TOC entry 3331 (class 2606 OID 16769)

-- Name: Can_teach fk_c_ID_discipline; Type: FK CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Can_teach"

ADD CONSTRAINT "fk_c_ID_discipline" FOREIGN KEY
("c_ID_discipline") REFERENCES
timetable_courses."Discipline"("ID_discipline");

--

-- TOC entry 3332 (class 2606 OID 16764)

-- Name: Can_teach fk_c_ID_passport; Type: FK CONSTRAINT;
Schema: timetable_courses; Owner: postgres

--

ALTER TABLE ONLY timetable_courses."Can_teach"

```
ADD CONSTRAINT "fk_c_ID_passport" FOREIGN KEY
("c_ID_passport") REFERENCES
timetable_courses."Teacher"("ID_passport");
```

```
--
```

```
-- TOC entry 3326 (class 2606 OID 16711)
```

```
-- Name: Sick_and_vacation_leaves s_ID_passport; Type: FK
CONSTRAINT; Schema: timetable_courses; Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY timetable_courses."Sick_and_vacation_leaves"
```

```
ADD CONSTRAINT "s_ID_passport" FOREIGN KEY
("s_ID_passport") REFERENCES
timetable_courses."Teacher"("ID_passport") NOT VALID;
```

```
-- Completed on 2023-03-19 17:01:45
```

```
--
```

```
-- PostgreSQL database dump complete
```

```
--
```

5 Выводы

При выполнении данной лабораторной работы были приобретены практические навыки создания таблиц в базе данных PostgreSQL, заполнения их рабочими данными, а также выполнения резервного копирования и восстановления БД.

Была реализована база данных «Timetable» с использованием pgAdmin 4, включая схему и таблицы с ограничениями на данные и заполненные рабочими данными. Также были созданы две резервные копии БД в формате Custom и Plain и было проведено восстановление на основе резервной копии. Таким образом, был получен опыт по работе и использованию программы pgAdmin 4.