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

Отчет

по лабораторной работе №3.2 «Создание таблиц базы данных PostgreSQL. Заполнение таблиц рабочими данными»

по дисциплине **«Проектирование и реализация баз данных»**

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Санкт-Петербург 2023

Оглавление

Цель работы

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

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.

   Указание:

   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.

Выполнение

Вариант 8. БД «Аэропорт»

Схема логической модели базы данных, сгенерированная в Generate ERD указана на рисунке 1.

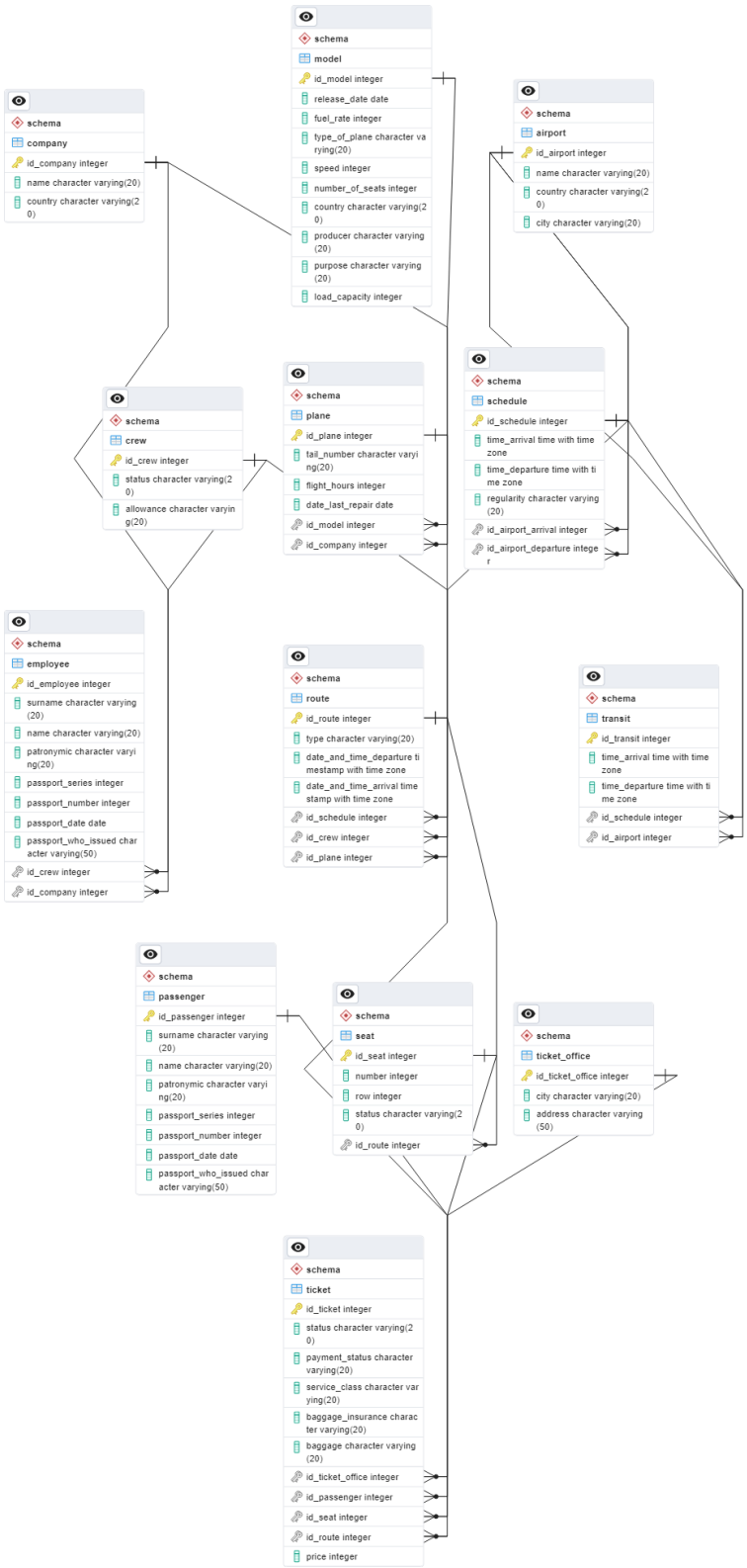

Рисунок 1 – Схема логической модели базы данных.

Листинг кода дампа приведен ниже в листинге 1:

Листинг 1 – Описание атрибутов сущностей

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

-- Dumped from database version 16.0
-- Dumped by pg_dump version 16.0

-- Started on 2023-10-27 13:08:03

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 16398)
-- Name: schema; Type: SCHEMA; Schema: -; Owner: postgres
--

CREATE SCHEMA schema;


ALTER SCHEMA schema OWNER TO postgres;

SET default_tablespace = '';

SET default_table_access_method = heap;

--
-- TOC entry 225 (class 1259 OID 16424)
-- Name: seat; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.seat (
    id_seat integer NOT NULL,
    number integer NOT NULL,
    "row" integer NOT NULL,
    status character varying(20),
    id_route integer
);
```

```
ALTER TABLE schema.seat OWNER TO postgres;

--
-- TOC entry 224 (class 1259 OID 16423)
-- Name: Seat_id_seat_seq; Type: SEQUENCE; Schema: schema;
Owner: postgres
--

ALTER TABLE schema.seat ALTER COLUMN id_seat ADD GENERATED BY
DEFAULT AS IDENTITY (
    SEQUENCE NAME schema."Seat_id_seat_seq"
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 229 (class 1259 OID 16436)
-- Name: airport; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.airport (
    id_airport integer NOT NULL,
    name character varying(20) NOT NULL,
    country character varying(20) NOT NULL,
    city character varying(20) NOT NULL
);


ALTER TABLE schema.airport OWNER TO postgres;

--
-- TOC entry 228 (class 1259 OID 16435)
-- Name: airport_id_airport_seq; Type: SEQUENCE; Schema: schema;
Owner: postgres
--

ALTER TABLE schema.airport ALTER COLUMN id_airport ADD GENERATED
BY DEFAULT AS IDENTITY (
    SEQUENCE NAME schema.airport_id_airport_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 239 (class 1259 OID 16469)
```

```
-- Name: company; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.company (
    id_company integer NOT NULL,
    name character varying(20) NOT NULL,
    country character varying(20) NOT NULL
);


ALTER TABLE schema.company OWNER TO postgres;

--
-- TOC entry 238 (class 1259 OID 16468)
-- Name: company_id_company_seq; Type: SEQUENCE; Schema: schema;
Owner: postgres
--

ALTER TABLE schema.company ALTER COLUMN id_company ADD GENERATED
BY DEFAULT AS IDENTITY (
    SEQUENCE NAME schema.company_id_company_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 241 (class 1259 OID 16475)
-- Name: crew; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.crew (
    id_crew integer NOT NULL,
    status character varying(20) NOT NULL,
    allowance character varying(20) NOT NULL
);


ALTER TABLE schema.crew OWNER TO postgres;

--
-- TOC entry 240 (class 1259 OID 16474)
-- Name: crew_id_crew_seq; Type: SEQUENCE; Schema: schema;
Owner: postgres
--

ALTER TABLE schema.crew ALTER COLUMN id_crew ADD GENERATED BY
DEFAULT AS IDENTITY (
    SEQUENCE NAME schema.crew_id_crew_seq
    START WITH 1
```

```
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 227 (class 1259 OID 16430)
-- Name: employee; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.employee (
    id_employee integer NOT NULL,
    surname character varying(20) NOT NULL,
    name character varying(20) NOT NULL,
    patronymic character varying(20),
    passport_series integer NOT NULL,
    passport_number integer NOT NULL,
    passport_date date NOT NULL,
    passport_who_issued character varying(50) NOT NULL,
    id_crew integer NOT NULL,
    id_company integer NOT NULL
);


ALTER TABLE schema.employee OWNER TO postgres;

--
-- TOC entry 226 (class 1259 OID 16429)
-- Name: employee_id_employee_seq; Type: SEQUENCE; Schema:
schema; Owner: postgres
--

ALTER TABLE schema.employee ALTER COLUMN id_employee ADD
GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME schema.employee_id_employee_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 237 (class 1259 OID 16463)
-- Name: model; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.model (
    id_model integer NOT NULL,
    release_date date NOT NULL,
```

```
    fuel_rate integer NOT NULL,
    type_of_plane character varying(20) NOT NULL,
    speed integer NOT NULL,
    number_of_seats integer NOT NULL,
    country character varying(20) NOT NULL,
    producer character varying(20) NOT NULL,
    purpose character varying(20) NOT NULL,
    load_capacity integer NOT NULL
);


ALTER TABLE schema.model OWNER TO postgres;

--
-- TOC entry 236 (class 1259 OID 16462)
-- Name: model_id_model_seq; Type: SEQUENCE; Schema: schema;
Owner: postgres
--

ALTER TABLE schema.model ALTER COLUMN id_model ADD GENERATED BY
DEFAULT AS IDENTITY (
    SEQUENCE NAME schema.model_id_model_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 219 (class 1259 OID 16406)
-- Name: passenger; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.passenger (
    id_passenger integer NOT NULL,
    surname character varying(20) NOT NULL,
    name character varying(20) NOT NULL,
    patronymic character varying(20),
    passport_series integer NOT NULL,
    passport_number integer NOT NULL,
    passport_date date NOT NULL,
    passport_who_issued character varying(50) NOT NULL
);


ALTER TABLE schema.passenger OWNER TO postgres;

--
-- TOC entry 218 (class 1259 OID 16405)
-- Name: passenger_id_passenger_seq; Type: SEQUENCE; Schema:
schema; Owner: postgres
```

```
--

ALTER TABLE schema.passenger ALTER COLUMN id_passenger ADD
GENERATED BY DEFAULT AS IDENTITY (
    SEQUENCE NAME schema.passenger_id_passenger_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 235 (class 1259 OID 16452)
-- Name: plane; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.plane (
    id_plane integer NOT NULL,
    tail_number character varying(20) NOT NULL,
    flight_hours integer NOT NULL,
    date_last_repair date NOT NULL,
    id_model integer NOT NULL,
    id_company integer NOT NULL
);


ALTER TABLE schema.plane OWNER TO postgres;

--
-- TOC entry 234 (class 1259 OID 16451)
-- Name: plane_id_plane_seq; Type: SEQUENCE; Schema: schema;
Owner: postgres
--

ALTER TABLE schema.plane ALTER COLUMN id_plane ADD GENERATED BY
DEFAULT AS IDENTITY (
    SEQUENCE NAME schema.plane_id_plane_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 223 (class 1259 OID 16418)
-- Name: route; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.route (
```

```
    id_route integer NOT NULL,
    type character varying(20) NOT NULL,
    date_and_time_departure timestamp with time zone NOT NULL,
    date_and_time_arrival timestamp with time zone NOT NULL,
    id_schedule integer NOT NULL,
    id_crew integer NOT NULL,
    id_plane integer NOT NULL
);


ALTER TABLE schema.route OWNER TO postgres;

--
-- TOC entry 222 (class 1259 OID 16417)
-- Name: route_id_route_seq; Type: SEQUENCE; Schema: schema;
Owner: postgres
--

ALTER TABLE schema.route ALTER COLUMN id_route ADD GENERATED BY
DEFAULT AS IDENTITY (
    SEQUENCE NAME schema.route_id_route_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 233 (class 1259 OID 16446)
-- Name: schedule; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.schedule (
    id_schedule integer NOT NULL,
    time_arrival time with time zone NOT NULL,
    time_departure time with time zone NOT NULL,
    regularity character varying(20) NOT NULL,
    id_airport_arrival integer NOT NULL,
    id_airport_departure integer NOT NULL
);


ALTER TABLE schema.schedule OWNER TO postgres;

--
-- TOC entry 232 (class 1259 OID 16445)
-- Name: schedule_id_schedule_seq; Type: SEQUENCE; Schema:
schema; Owner: postgres
--

ALTER TABLE schema.schedule ALTER COLUMN id_schedule ADD
```

```
GENERATED BY DEFAULT AS IDENTITY (
    SEQUENCE NAME schema.schedule_id_schedule_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 221 (class 1259 OID 16412)
-- Name: ticket; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.ticket (
    id_ticket integer NOT NULL,
    status character varying(20) NOT NULL,
    payment_status character varying(20) NOT NULL,
    service_class character varying(20) NOT NULL,
    baggage_insurance character varying(20) NOT NULL,
    baggage character varying(20) NOT NULL,
    id_ticket_office integer NOT NULL,
    id_passenger integer NOT NULL,
    id_seat integer NOT NULL,
    id_route integer NOT NULL,
    price integer NOT NULL
);


ALTER TABLE schema.ticket OWNER TO postgres;

--
-- TOC entry 220 (class 1259 OID 16411)
-- Name: ticket_id_ticket_seq; Type: SEQUENCE; Schema: schema;
Owner: postgres
--

ALTER TABLE schema.ticket ALTER COLUMN id_ticket ADD GENERATED
BY DEFAULT AS IDENTITY (
    SEQUENCE NAME schema.ticket_id_ticket_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 217 (class 1259 OID 16400)
-- Name: ticket_office; Type: TABLE; Schema: schema; Owner:
postgres
```

```
--

CREATE TABLE schema.ticket_office (
    id_ticket_office integer NOT NULL,
    city character varying(20) NOT NULL,
    address character varying(50) NOT NULL
);


ALTER TABLE schema.ticket_office OWNER TO postgres;

--
-- TOC entry 216 (class 1259 OID 16399)
-- Name: ticket_office_id_ticket_office_seq; Type: SEQUENCE;
Schema: schema; Owner: postgres
--

ALTER TABLE schema.ticket_office ALTER COLUMN id_ticket_office
ADD GENERATED ALWAYS AS IDENTITY (
    SEQUENCE NAME schema.ticket_office_id_ticket_office_seq
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 231 (class 1259 OID 16442)
-- Name: transit; Type: TABLE; Schema: schema; Owner: postgres
--

CREATE TABLE schema.transit (
    id_transit integer NOT NULL,
    time_arrival time with time zone NOT NULL,
    time_departure time with time zone NOT NULL,
    id_schedule integer NOT NULL,
    id_airport integer NOT NULL
);


ALTER TABLE schema.transit OWNER TO postgres;

--
-- TOC entry 230 (class 1259 OID 16441)
-- Name: transit_id_transit_seq; Type: SEQUENCE; Schema: schema;
Owner: postgres
--

ALTER TABLE schema.transit ALTER COLUMN id_transit ADD GENERATED
ALWAYS AS IDENTITY (
    SEQUENCE NAME schema.transit_id_transit_seq
```

```
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    MAXVALUE 99999999
    CACHE 1
);


--
-- TOC entry 4893 (class 0 OID 16436)
-- Dependencies: 229
-- Data for Name: airport; Type: TABLE DATA; Schema: schema;
Owner: postgres
--

COPY schema.airport (id_airport, name, country, city) FROM
stdin;
1   Airport 1  Country 1  City 1
2   Airport 2  Country 2  City 2
3   Airport 3  Country 3  City 3
\.


--
-- TOC entry 4903 (class 0 OID 16469)
-- Dependencies: 239
-- Data for Name: company; Type: TABLE DATA; Schema: schema;
Owner: postgres
--

COPY schema.company (id_company, name, country) FROM stdin;
1   Company 1  Country 1
2   Company 2  Country 2
3   Company 3  Country 3
\.


--
-- TOC entry 4905 (class 0 OID 16475)
-- Dependencies: 241
-- Data for Name: crew; Type: TABLE DATA; Schema: schema; Owner:
postgres
--

COPY schema.crew (id_crew, status, allowance) FROM stdin;
1   Status 1   Allowance 1
2   Status 2   Allowance 2
3   Status 3   Allowance 3
\.


--
-- TOC entry 4891 (class 0 OID 16430)
```

```
-- Dependencies: 227
-- Data for Name: employee; Type: TABLE DATA; Schema: schema;
Owner: postgres
--

COPY schema.employee (id_employee, surname, name, patronymic,
passport_series, passport_number, passport_date,
passport_who_issued, id_crew, id_company) FROM stdin;
46  Surname 1  Name 1 Patronymic 1   1234   566789 2023-01-01
Issuer 1   1  1
47  Surname 2  Name 2 Patronymic 2   5678   987765 2023-02-01
Issuer 2   2  2
48  Surname 3  Name 3 Patronymic 3   4321   123455 2023-03-01
Issuer 3   3  3
\.


--
-- TOC entry 4901 (class 0 OID 16463)
-- Dependencies: 237
-- Data for Name: model; Type: TABLE DATA; Schema: schema;
Owner: postgres
--

COPY schema.model (id_model, release_date, fuel_rate,
type_of_plane, speed, number_of_seats, country, producer,
purpose, load_capacity) FROM stdin;
1   2020-01-01 500    Type 1 800    200    Country 1  Producer 1
Purpose 1  10000
2   2021-02-01 600    Type 2 900    250    Country 2  Producer 2
Purpose 2  12000
3   2022-03-01 700    Type 3 1000   300    Country 3  Producer 3
Purpose 3  15000
\.


--
-- TOC entry 4883 (class 0 OID 16406)
-- Dependencies: 219
-- Data for Name: passenger; Type: TABLE DATA; Schema: schema;
Owner: postgres
--

COPY schema.passenger (id_passenger, surname, name, patronymic,
passport_series, passport_number, passport_date,
passport_who_issued) FROM stdin;
1   Surname 1  Name 1 Patronymic 1   1111   222222 2023-01-01
Issuer 1
2   Surname 2  Name 2 Patronymic 2   3333   444444 2023-02-01
Issuer 2
3   Surname 3  Name 3 Patronymic 3   5555   666666 2023-03-01
Issuer 3
\.
```

```
--
-- TOC entry 4899 (class 0 OID 16452)
-- Dependencies: 235
-- Data for Name: plane; Type: TABLE DATA; Schema: schema;
Owner: postgres
--

COPY schema.plane (id_plane, tail_number, flight_hours,
date_last_repair, id_model, id_company) FROM stdin;
1	AA001	1000	2023-01-01	1	1
2	BB002	2000	2023-02-01	2	2
\.


--
-- TOC entry 4887 (class 0 OID 16418)
-- Dependencies: 223
-- Data for Name: route; Type: TABLE DATA; Schema: schema;
Owner: postgres
--

COPY schema.route (id_route, type, date_and_time_departure,
date_and_time_arrival, id_schedule, id_crew, id_plane) FROM
stdin;
1	Domestic	2023-10-28 10:00:00+03	2023-10-28 12:00:00+03	1
1	1
2	International	2023-10-29 14:00:00+03	2023-10-29 18:00:00+03
2	2	2
3	Domestic	2023-10-30 08:00:00+03	2023-10-30 10:00:00+03	3
3	2
\.


--
-- TOC entry 4897 (class 0 OID 16446)
-- Dependencies: 233
-- Data for Name: schedule; Type: TABLE DATA; Schema: schema;
Owner: postgres
--

COPY schema.schedule (id_schedule, time_arrival, time_departure,
regularity, id_airport_arrival, id_airport_departure) FROM
stdin;
1	09:30:00+03	08:00:00+03	Daily	1	2
2	11:30:00+03	10:00:00+03	Weekly	2	3
3	15:30:00+03	14:00:00+03	Monthly	1	3
\.


--
-- TOC entry 4889 (class 0 OID 16424)
```

```
-- Dependencies: 225
-- Data for Name: seat; Type: TABLE DATA; Schema: schema; Owner:
postgres
--

COPY schema.seat (id_seat, number, "row", status, id_route) FROM
stdin;
1	1	1	Available	1
2	2	1	Available	1
3	1	2	Booked	2
4	2	2	Available	2
\.


--
-- TOC entry 4885 (class 0 OID 16412)
-- Dependencies: 221
-- Data for Name: ticket; Type: TABLE DATA; Schema: schema;
Owner: postgres
--

COPY schema.ticket (id_ticket, status, payment_status,
service_class, baggage_insurance, baggage, id_ticket_office,
id_passenger, id_seat, id_route, price) FROM stdin;
1	Active	Paid	Business	Yes	Checked	1	1	1	1	100
2	Active	Paid	Economy	No	Not Checked	1	1	2	1	50
3	Pending	Not Paid	Business	Yes	Checked	2	3	3
3	150
\.


--
-- TOC entry 4881 (class 0 OID 16400)
-- Dependencies: 217
-- Data for Name: ticket_office; Type: TABLE DATA; Schema:
schema; Owner: postgres
--

COPY schema.ticket_office (id_ticket_office, city, address) FROM
stdin;
1	City 1	Address 1
2	City 2	Address 2
3	City 3	Address 3
\.


--
-- TOC entry 4895 (class 0 OID 16442)
-- Dependencies: 231
-- Data for Name: transit; Type: TABLE DATA; Schema: schema;
Owner: postgres
--
```

```
COPY schema.transit (id_transit, time_arrival, time_departure,
id_schedule, id_airport) FROM stdin;
1	08:30:00+03	09:00:00+03	1	1
2	10:30:00+03	11:00:00+03	2	2
3	14:30:00+03	15:00:00+03	3	3
\.


--
-- TOC entry 4911 (class 0 OID 0)
-- Dependencies: 224
-- Name: Seat_id_seat_seq; Type: SEQUENCE SET; Schema: schema;
Owner: postgres
--

SELECT pg_catalog.setval('schema."Seat_id_seat_seq"', 8, true);


--
-- TOC entry 4912 (class 0 OID 0)
-- Dependencies: 228
-- Name: airport_id_airport_seq; Type: SEQUENCE SET; Schema:
schema; Owner: postgres
--

SELECT pg_catalog.setval('schema.airport_id_airport_seq', 36,
true);


--
-- TOC entry 4913 (class 0 OID 0)
-- Dependencies: 238
-- Name: company_id_company_seq; Type: SEQUENCE SET; Schema:
schema; Owner: postgres
--

SELECT pg_catalog.setval('schema.company_id_company_seq', 24,
true);


--
-- TOC entry 4914 (class 0 OID 0)
-- Dependencies: 240
-- Name: crew_id_crew_seq; Type: SEQUENCE SET; Schema: schema;
Owner: postgres
--

SELECT pg_catalog.setval('schema.crew_id_crew_seq', 15, true);


--
-- TOC entry 4915 (class 0 OID 0)
-- Dependencies: 226
```

```
-- Name: employee_id_employee_seq; Type: SEQUENCE SET; Schema:
schema; Owner: postgres
--

SELECT pg_catalog.setval('schema.employee_id_employee_seq', 48,
true);


--
-- TOC entry 4916 (class 0 OID 0)
-- Dependencies: 236
-- Name: model_id_model_seq; Type: SEQUENCE SET; Schema: schema;
Owner: postgres
--

SELECT pg_catalog.setval('schema.model_id_model_seq', 6, true);


--
-- TOC entry 4917 (class 0 OID 0)
-- Dependencies: 218
-- Name: passenger_id_passenger_seq; Type: SEQUENCE SET; Schema:
schema; Owner: postgres
--

SELECT pg_catalog.setval('schema.passenger_id_passenger_seq',
30, true);


--
-- TOC entry 4918 (class 0 OID 0)
-- Dependencies: 234
-- Name: plane_id_plane_seq; Type: SEQUENCE SET; Schema: schema;
Owner: postgres
--

SELECT pg_catalog.setval('schema.plane_id_plane_seq', 14, true);


--
-- TOC entry 4919 (class 0 OID 0)
-- Dependencies: 222
-- Name: route_id_route_seq; Type: SEQUENCE SET; Schema: schema;
Owner: postgres
--

SELECT pg_catalog.setval('schema.route_id_route_seq', 3, true);


--
-- TOC entry 4920 (class 0 OID 0)
-- Dependencies: 232
-- Name: schedule_id_schedule_seq; Type: SEQUENCE SET; Schema:
```

```
schema; Owner: postgres
--

SELECT pg_catalog.setval('schema.schedule_id_schedule_seq', 12,
true);


--
-- TOC entry 4921 (class 0 OID 0)
-- Dependencies: 220
-- Name: ticket_id_ticket_seq; Type: SEQUENCE SET; Schema:
schema; Owner: postgres
--

SELECT pg_catalog.setval('schema.ticket_id_ticket_seq', 9,
true);


--
-- TOC entry 4922 (class 0 OID 0)
-- Dependencies: 216
-- Name: ticket_office_id_ticket_office_seq; Type: SEQUENCE SET;
Schema: schema; Owner: postgres
--

SELECT
pg_catalog.setval('schema.ticket_office_id_ticket_office_seq',
3, true);


--
-- TOC entry 4923 (class 0 OID 0)
-- Dependencies: 230
-- Name: transit_id_transit_seq; Type: SEQUENCE SET; Schema:
schema; Owner: postgres
--

SELECT pg_catalog.setval('schema.transit_id_transit_seq', 3,
true);


--
-- TOC entry 4708 (class 2606 OID 16440)
-- Name: airport airport_pkey; Type: CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.airport
    ADD CONSTRAINT airport_pkey PRIMARY KEY (id_airport);


--
-- TOC entry 4718 (class 2606 OID 16473)
```

```
-- Name: company company_pkey; Type: CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.company
    ADD CONSTRAINT company_pkey PRIMARY KEY (id_company);


--
-- TOC entry 4720 (class 2606 OID 16479)
-- Name: crew crew_pkey; Type: CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.crew
    ADD CONSTRAINT crew_pkey PRIMARY KEY (id_crew);


--
-- TOC entry 4706 (class 2606 OID 16434)
-- Name: employee employee_pkey; Type: CONSTRAINT; Schema:
schema; Owner: postgres
--

ALTER TABLE ONLY schema.employee
    ADD CONSTRAINT employee_pkey PRIMARY KEY (id_employee);


--
-- TOC entry 4716 (class 2606 OID 16467)
-- Name: model model_pkey; Type: CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.model
    ADD CONSTRAINT model_pkey PRIMARY KEY (id_model);


--
-- TOC entry 4698 (class 2606 OID 16410)
-- Name: passenger passenger_pkey; Type: CONSTRAINT; Schema:
schema; Owner: postgres
--

ALTER TABLE ONLY schema.passenger
    ADD CONSTRAINT passenger_pkey PRIMARY KEY (id_passenger);


--
-- TOC entry 4714 (class 2606 OID 16456)
-- Name: plane plane_pkey; Type: CONSTRAINT; Schema: schema;
Owner: postgres
--
```

```
ALTER TABLE ONLY schema.plane
    ADD CONSTRAINT plane_pkey PRIMARY KEY (id_plane);


--
-- TOC entry 4702 (class 2606 OID 16422)
-- Name: route route_pkey; Type: CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.route
    ADD CONSTRAINT route_pkey PRIMARY KEY (id_route);


--
-- TOC entry 4712 (class 2606 OID 16450)
-- Name: schedule schedule_pkey; Type: CONSTRAINT; Schema:
schema; Owner: postgres
--

ALTER TABLE ONLY schema.schedule
    ADD CONSTRAINT schedule_pkey PRIMARY KEY (id_schedule);


--
-- TOC entry 4704 (class 2606 OID 16428)
-- Name: seat seat_pkey; Type: CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.seat
    ADD CONSTRAINT seat_pkey PRIMARY KEY (id_seat);


--
-- TOC entry 4696 (class 2606 OID 16404)
-- Name: ticket_office ticket_office_pkey; Type: CONSTRAINT;
Schema: schema; Owner: postgres
--

ALTER TABLE ONLY schema.ticket_office
    ADD CONSTRAINT ticket_office_pkey PRIMARY KEY
(id_ticket_office);


--
-- TOC entry 4700 (class 2606 OID 16558)
-- Name: ticket ticket_pkey; Type: CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.ticket
```

```
    ADD CONSTRAINT ticket_pkey PRIMARY KEY (id_ticket);


--
-- TOC entry 4710 (class 2606 OID 16526)
-- Name: transit transit_pkey; Type: CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.transit
    ADD CONSTRAINT transit_pkey PRIMARY KEY (id_transit);


--
-- TOC entry 4731 (class 2606 OID 16532)
-- Name: transit fk_airport; Type: FK CONSTRAINT; Schema:
schema; Owner: postgres
--

ALTER TABLE ONLY schema.transit
    ADD CONSTRAINT fk_airport FOREIGN KEY (id_airport)
REFERENCES schema.airport(id_airport) NOT VALID;


--
-- TOC entry 4733 (class 2606 OID 16537)
-- Name: schedule fk_airport_arrival; Type: FK CONSTRAINT;
Schema: schema; Owner: postgres
--

ALTER TABLE ONLY schema.schedule
    ADD CONSTRAINT fk_airport_arrival FOREIGN KEY
(id_airport_arrival) REFERENCES schema.airport(id_airport) NOT
VALID;


--
-- TOC entry 4734 (class 2606 OID 16542)
-- Name: schedule fk_airport_departure; Type: FK CONSTRAINT;
Schema: schema; Owner: postgres
--

ALTER TABLE ONLY schema.schedule
    ADD CONSTRAINT fk_airport_departure FOREIGN KEY
(id_airport_departure) REFERENCES schema.airport(id_airport) NOT
VALID;


--
-- TOC entry 4729 (class 2606 OID 16520)
-- Name: employee fk_company; Type: FK CONSTRAINT; Schema:
schema; Owner: postgres
--
```

```
ALTER TABLE ONLY schema.employee
    ADD CONSTRAINT fk_company FOREIGN KEY (id_company)
REFERENCES schema.company(id_company) NOT VALID;


--
-- TOC entry 4735 (class 2606 OID 16552)
-- Name: plane fk_company; Type: FK CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.plane
    ADD CONSTRAINT fk_company FOREIGN KEY (id_company)
REFERENCES schema.company(id_company) NOT VALID;


--
-- TOC entry 4725 (class 2606 OID 16505)
-- Name: route fk_crew; Type: FK CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.route
    ADD CONSTRAINT fk_crew FOREIGN KEY (id_crew) REFERENCES
schema.crew(id_crew) NOT VALID;


--
-- TOC entry 4730 (class 2606 OID 16515)
-- Name: employee fk_crew; Type: FK CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.employee
    ADD CONSTRAINT fk_crew FOREIGN KEY (id_crew) REFERENCES
schema.crew(id_crew) NOT VALID;


--
-- TOC entry 4736 (class 2606 OID 16547)
-- Name: plane fk_model; Type: FK CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.plane
    ADD CONSTRAINT fk_model FOREIGN KEY (id_model) REFERENCES
schema.model(id_model) NOT VALID;


--
-- TOC entry 4721 (class 2606 OID 16485)
-- Name: ticket fk_passenger; Type: FK CONSTRAINT; Schema:
```

```
schema; Owner: postgres
--

ALTER TABLE ONLY schema.ticket
    ADD CONSTRAINT fk_passenger FOREIGN KEY (id_passenger)
REFERENCES schema.passenger(id_passenger) NOT VALID;


--
-- TOC entry 4726 (class 2606 OID 16510)
-- Name: route fk_plane; Type: FK CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.route
    ADD CONSTRAINT fk_plane FOREIGN KEY (id_plane) REFERENCES
schema.plane(id_plane) NOT VALID;


--
-- TOC entry 4728 (class 2606 OID 16457)
-- Name: seat fk_route; Type: FK CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.seat
    ADD CONSTRAINT fk_route FOREIGN KEY (id_route) REFERENCES
schema.route(id_route) NOT VALID;


--
-- TOC entry 4722 (class 2606 OID 16495)
-- Name: ticket fk_route; Type: FK CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.ticket
    ADD CONSTRAINT fk_route FOREIGN KEY (id_route) REFERENCES
schema.route(id_route) NOT VALID;


--
-- TOC entry 4727 (class 2606 OID 16500)
-- Name: route fk_schedule; Type: FK CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.route
    ADD CONSTRAINT fk_schedule FOREIGN KEY (id_schedule)
REFERENCES schema.schedule(id_schedule) NOT VALID;


--
```

```
-- TOC entry 4732 (class 2606 OID 16527)
-- Name: transit fk_schedule; Type: FK CONSTRAINT; Schema:
schema; Owner: postgres
--

ALTER TABLE ONLY schema.transit
    ADD CONSTRAINT fk_schedule FOREIGN KEY (id_schedule)
REFERENCES schema.schedule(id_schedule) NOT VALID;


--
-- TOC entry 4723 (class 2606 OID 16490)
-- Name: ticket fk_seat; Type: FK CONSTRAINT; Schema: schema;
Owner: postgres
--

ALTER TABLE ONLY schema.ticket
    ADD CONSTRAINT fk_seat FOREIGN KEY (id_seat) REFERENCES
schema.seat(id_seat) NOT VALID;


--
-- TOC entry 4724 (class 2606 OID 16480)
-- Name: ticket fk_ticket_office; Type: FK CONSTRAINT; Schema:
schema; Owner: postgres
--

ALTER TABLE ONLY schema.ticket
    ADD CONSTRAINT fk_ticket_office FOREIGN KEY
(id_ticket_office) REFERENCES
schema.ticket_office(id_ticket_office) NOT VALID;


-- Completed on 2023-10-27 13:08:04

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

Вывод

В ходе лабораторной работы я научилась создавать, заполнять, восстанавливать и сохранять баз данных PostgresSQL с использованием программы pgAdmin4. В процессе лабораторной работы была создана база данных и таблицы в соответствии с заданием. Были заданы необходимые привязки и ограничения, после чего таблица была заполнена данными. Для безопасности в случае сбоя было создано две резервные копии, которые позволили восстановить базу данных без потерь, а также посмотреть на листинг кода.