

Университет ИТМО

Факультет инфокоммуникационных технологий

Дисциплина:

«ПРОЕКТИРОВАНИЕ И РЕАЛИЗАЦИЯ БАЗ ДАННЫХ»

ОТЧЕТ ПО ЛАБОРАТОРНОЙ РАБОТЕ №1

«Создание таблиц базы данных POSTGRESQL. Заполнение таблиц рабочими
данными»

Вариант 19

Специальность:

09.03.03 Мобильные и сетевые технологии

Выполнила:

Студентка группы К3240

Вахрушева К.А.

Проверила:

Говорова М.М.

Дата: «__» ____ 2022 г.

Оценка _____

Санкт-Петербург

2022г.

1. **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.

2. 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*.

1. Восстановить БД.

3. Ход работы:

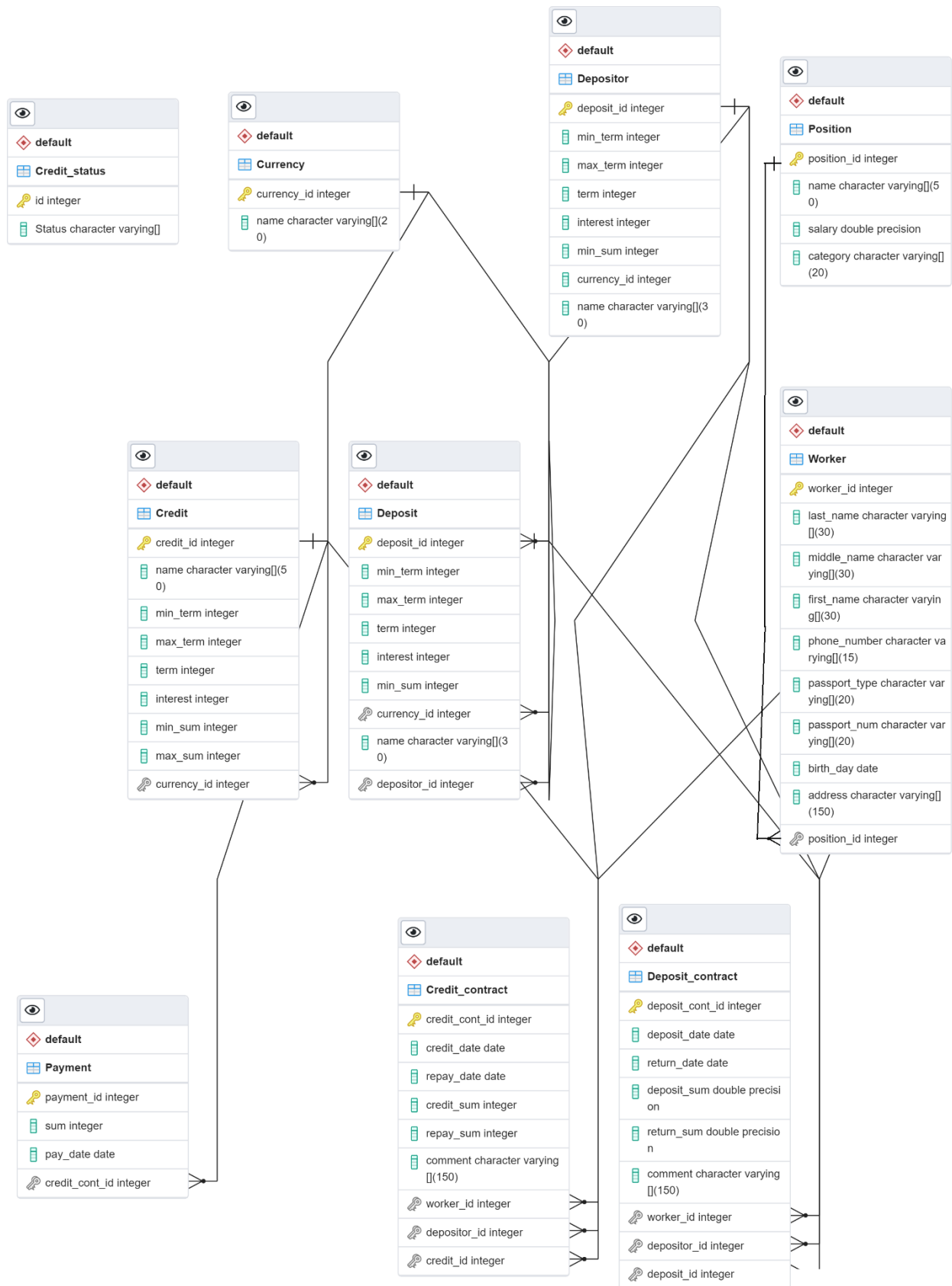
Индивидуальное задание (19 вариант)

Вариант 19. БД «Банк»


Описание предметной области: Клиенты банка имеют вклады и кредиты различных видов. Сотрудники банка заключают договоры с клиентами. Ежемесячно начисляется процент по вкладу, и полученная сумма добавляется к сумме вклада заказчика. Вкладчик имеет право снимать проценты по вкладу или всю сумму вклада с процентами по истечении срока вклада. При снятии денег до истечения срока вклада процент за текущий месяц не начисляется. Кредит выдается на определенный срок. Формируется схема выплаты. Хранится информация по ежемесячным выплатам.

БД должна содержать следующий минимальный набор сведений: ФИО сотрудника. Возраст сотрудника. Адрес сотрудника. № телефона сотрудник. Паспортные данные сотрудника. Должность сотрудника. Оклад сотрудника (зависит от категории). Наименование вклада. Минимальный срок вклада. Минимальная сумма вклада. Процент по вкладу. Срок вклада. Процентная ставка. Код валюты. Наименование валюты. ФИО вкладчика. Адрес вкладчика. Телефон вкладчика. E-mail вкладчика. Паспортные данные. Номер договора. Дата вклада. Дата возврата. Сумма вклада. Сумма возврата. Данные по кредиту.

ER-диаграмма:



Создание базы данных:

 Create - Database ↗ ✕

General

Definition

Security

Parameters

Advanced


SQL



Database


Owner

Comment

БАНК

 postgres | ▾

✕ Close ↺ Reset  Save

Создание схемы:

Create - Schema

General

Security

Default privileges

SQL

Name

default

Owner

postgres

Comment

i

?

Close

Reset

Save

Создание таблиц:

Worker

Create - Table



General Columns Advanced Constraints Partitions Parameters Security SQL

| Columns | | | | | | | | + |
|---------|------|--------------|--------------------|-------|-----------|-------------------------------------|-------------------------------------|---|
| | Name | Data type | Length/Precision | Scale | Not NULL? | Primary key? | Default | |
| | | worker_id | integer | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | | last_name | character varyi... | 30 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | | middle_name | character varyi... | 30 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | | first_name | character varyi... | 30 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | | phone_numb | character varyi... | 15 | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | passport_typ | character varyi... | 20 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | | passport_nur | character varyi... | 20 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | | birth_day | date | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | | address | character varyi... | 150 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | | position_id | integer | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |



Close Reset Save

Position

Create - Table

↗ ×

General
Columns
Advanced
Constraints
Partitions
Parameters
Security
SQL

Inherited from table(s)

Select to inherit from...

↓

Columns

+

| | | Name | Data type | Length/Precision | Scale | Not NULL? | Primary key? | Default |
|--|--|-------------|------------------------|------------------|-------|-------------------------------------|-------------------------------------|----------------------|
| | | position_id | integer v | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="text"/> |
| | | name | character varyi... v | 50 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| | | salary | double precisi... v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| | | category | character varyi... v | 20 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |

i

?

× Close

↺ Reset

💾 Save

Depositor

Columns

+

| | | Name | Data type | Length/Precision | Scale | Not NULL? | Primary key? | Default |
|--|--|-------------|------------------------|------------------|-------|-------------------------------------|-------------------------------------|----------------------|
| | | deposit_id | integer v | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="text"/> |
| | | min_term | integer v | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| | | max_term | integer v | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| | | term | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| | | interest | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| | | min_sum | integer v | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| | | currency_id | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| | | name | character varyi... v | 30 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |

Create - Table

General

Columns

Advanced

Constraints

Partitions

Parameters

Security

SQL

Primary Key

Foreign Key

Check

Unique

Exclude

Name

above_than_zero

Check

(min_term, max_term, term, interest, min_sum) >

General

Definition

Check

(min_term, max_term, term, interest, min_sum) > 0

No inherit?

Don't validate?

Close

Reset

Save

Credit

Create - Table

General

Columns

Advanced

Constraints

Partitions



Parameters

Security



SQL

| | Name | Data type | Length/Precision | Scale | Not NULL? | Primary key? | Default |
|-------------|-------------|--------------------|------------------|-------|-----------|--------------|---------|
| <div></div> | credit_id | integer | | | | | |
| <div></div> | name | character varyi... | 50 | | | | |
| <div></div> | min_term | integer | | | | | |
| <div></div> | max_term | integer | | | | | |
| <div></div> | term | integer | | | | | |
| <div></div> | interest | integer | | | | | |
| <div></div> | min_sum | integer | | | | | |
| <div></div> | max_sum | integer | | | | | |
| <div></div> | currency_id | integer | | | | | |

Primary Key Foreign Key Check Unique Exclude

| | | | | + |
|---|---------------|--------------------------------|------------------|---|
| | Name | Columns | Referenced Table | |
|   | Currency_idFK | (currency_id) -> (currency_id) | default.Currency | |

Primary Key Foreign Key Check Unique Exclude

| | | | + |
|---|------------|--|---|
| | Name | Check | |
|   | above_zero | min_term > 0 AND max_term > 0 AND term > 0 AND | |

General Definition

Check

min_term > 0 AND max_term > 0 AND term > 0 AND min_sum > 0 AND max_sum > 0

No inherit?



















Deposit_contract

 Create - Table



General Columns Advanced Constraints Partitions Parameters Security SQL

| | Name | Data type | Length/Precision | Scale | Not NULL? | Primary key? | Default |
|---|--------------|------------------------|------------------|-------|-------------------------------------|-------------------------------------|---------|
|   | deposit_cont | integer v | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
|   | deposit_date | date v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
|   | return_date | date v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
|   | deposit_sum | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
|   | comment | character varyi... v | 150 | | <input type="checkbox"/> | <input type="checkbox"/> | |
|   | worker_id | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
|   | depositor_id | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
|   | deposit_id | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

| Primary Key Foreign Key Check Unique Exclude | | | | |
|--|--|----------------|--------------------------------|-----------------------|
| | | | | |
| | | Name | Columns | Referenced Table |
| | | currency_idFK | (currency_id) -> (currency_id) | default.Currency |
| | | depositor_idFK | (depositor_id) -> (deposit_id) | "default"."Depositor" |
| | | deposit_idFK | (deposit_id) -> (deposit_id) | "default"."Deposit" |
| | | | | |
| General Definition Columns Action | | | | |

| Primary Key Foreign Key Check Unique Exclude | | | | |
|--|--|------------|---|--|
| | | | | |
| | | Name | Check | |
| | | above_zero | deposit_sum > 0::double precision AND return_si | |

Credit_contract

Create - Table

↗ ✕

General

Columns

Advanced



















Constraints

Partitions

Parameters

Security

SQL

| | Name | Data type | Length/Precision | Scale | Not NULL? | Primary key? | Default |
|---|---------------|------------------------|------------------|-------|-------------------------------------|-------------------------------------|---------|
|   | credit_cont_i | integer v | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
|   | credit_date | date v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
|   | repay_date | date v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
|   | credit_sum | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
|   | repay_sum | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
|   | comment | character varyi... v | 150 | | <input type="checkbox"/> | <input type="checkbox"/> | |
|   | worker_id | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
|   | depositor_id | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
|   | credit_id | integer v | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

i ?

✕ Close

↺ Reset

💾 Save

General

Columns

Advanced

Constraints

Partitions

Parameters

Security

SQL







Primary Key

Foreign Key

Check

Unique

Exclude

| | Name | Columns | Referenced Table |
|---|----------------|--------------------------------|-----------------------|
|   | credit_id | (credit_id) -> (credit_id) | "default"."Credit" |
|   | depositor_idFK | (depositor_id) -> (deposit_id) | "default"."Depositor" |
|   | worker_idFK | (worker_id) -> (worker_id) | "default"."Worker" |

Payment

Create - Table

General

Columns

Advanced

Constraints

Partitions

Parameters

Security

SQL

Inherited from table(s)

Select to inherit from...

Columns

+

| | Name | Data type | Length/Precision | Scale | Not NULL? | Primary key? | Default |
|--|---------------|-----------|------------------|-------|-------------------------------------|-------------------------------------|---------|
| | payment_id | integer | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | sum | integer | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | pay_date | date | | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | credit_cont_i | integer | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

i

?

Close

Reset

Save

Payment

General

Columns

Advanced

Constraints

Parameters

Security

SQL

Primary Key

Foreign Key

Check

Unique

Exclude

+

| | Name | Columns | Referenced Table |
|--|----------------|---------------------------------|--------------------|
| | credit_cont_id | (credit_cont_id) -> (credit_id) | "default"."Credit" |

General

Definition

Columns

Action

Columns

Primary Key

Foreign Key

Check

Unique

Exclude

+

| | Name | Check |
|--|------------|---------|
| | above_zero | sum > 0 |

General

Definition

Deposit

Deposit

General

Columns

Advanced

Constraints

Parameters

Security

SQL

Columns

| | Name | Data type | Length/Precision | Scale | Not NULL? | Primary key? | Default |
|--|-------------|-------------------|------------------|-------|-------------------------------------|-------------------------------------|---------|
| | deposit_id | integer | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | min_term | integer | | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | max_term | integer | | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | term | integer | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | interest | integer | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | min_sum | integer | | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | currency_id | integer | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| | name | Select an item... | 30 | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Deposit

General

Columns

Advanced

Constraints

Parameters

Security

SQL

Primary Key

Foreign Key

Check

Unique

Exclude

| Name | Columns | Referenced Table |
|-------------|--------------------------------|----------------------|
| currency_id | (currency_id) -> (currency_id) | "default"."Currency" |

General

Definition

Columns

Action

Currency

Create - Table

General

Columns

Advanced

Constraints

Partitions

Parameters

Security

SQL

Inherited from table(s)

Select to inherit from...

Columns

| | Name | Data type | Length/Precision | Scale | Not NULL? | Primary key? | Default |
|-----------------------------------|-------------|--------------------|------------------|-------|-------------|--------------|-------------|
| <div><div></div><div></div></div> | currency_id | integer | | | <div></div> | <div></div> | <div></div> |
| <div><div></div><div></div></div> | name | character varyi... | 20 | | <div></div> | <div></div> | <div></div> |

Credit

GeneralColumnsAdvancedConstraintsParametersSecuritySQL

Primary KeyForeign KeyCheckUniqueExclude

| Name | Columns | Referenced Table |
|--|--------------------------------|----------------------|
| <div><div><div></div><div></div></div><div>Currency_idFK</div></div> | (currency_id) -> (currency_id) | "default"."Currency" |

Dump работы с базой данных

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

```

-- Dumped from database version 13.6
-- Dumped by pg_dump version 13.6

-- Started on 2022-06-05 21:51:53

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 4 (class 2615 OID 16591)
-- Name: default; Type: SCHEMA; Schema: -; Owner: postgres
--

CREATE SCHEMA "default";

ALTER SCHEMA "default" OWNER TO postgres;

SET default_tablespace = "";

SET default_table_access_method = heap;

--
-- TOC entry 201 (class 1259 OID 16592)
-- Name: Credit; Type: TABLE; Schema: default; Owner: postgres
--

CREATE TABLE "default"."Credit" (
    credit_id integer NOT NULL,
    name character varying(50)[] NOT NULL,
    min_term integer,
    max_term integer,

```



```
term integer NOT NULL,  
interest integer NOT NULL,  
min_sum integer NOT NULL,  
max_sum integer,  
currency_id integer NOT NULL  
);
```

```
ALTER TABLE "default"."Credit" OWNER TO postgres;
```

```
--  
-- TOC entry 202 (class 1259 OID 16598)  
-- Name: Credit_contract; Type: TABLE; Schema: default; Owner: postgres  
--
```

```
CREATE TABLE "default"."Credit_contract" (  
    credit_cont_id integer NOT NULL,  
    credit_date date NOT NULL,  
    repay_date date NOT NULL,  
    credit_sum integer NOT NULL,  
    repay_sum integer NOT NULL,  
    comment character varying(150)[],  
    worker_id integer NOT NULL,  
    depositor_id integer NOT NULL,  
    credit_id integer NOT NULL  
);
```

```
ALTER TABLE "default"."Credit_contract" OWNER TO postgres;
```

```
--  
-- TOC entry 211 (class 1259 OID 24855)  
-- Name: Credit_status; Type: TABLE; Schema: default; Owner: postgres  
--
```

```
CREATE TABLE "default"."Credit_status" (  
    id integer NOT NULL,  
    "Status" character varying[]  
);
```

```

ALTER TABLE "default"."Credit_status" OWNER TO postgres;

--
-- TOC entry 210 (class 1259 OID 24853)
-- Name: Credit_status_id_seq; Type: SEQUENCE; Schema: default; Owner: postgres
--

CREATE SEQUENCE "default"."Credit_status_id_seq"
    AS integer
    START WITH 1
    INCREMENT BY 1
    NO MINVALUE
    NO MAXVALUE
    CACHE 1;

ALTER TABLE "default"."Credit_status_id_seq" OWNER TO postgres;

--
-- TOC entry 3086 (class 0 OID 0)
-- Dependencies: 210
-- Name: Credit_status_id_seq; Type: SEQUENCE OWNED BY; Schema: default;
Owner: postgres
--

ALTER SEQUENCE "default"."Credit_status_id_seq" OWNED BY
"default"."Credit_status".id;

--
-- TOC entry 203 (class 1259 OID 16604)
-- Name: Currency; Type: TABLE; Schema: default; Owner: postgres
--

CREATE TABLE "default"."Currency" (
    currency_id integer NOT NULL,
    name character varying(20)[] NOT NULL
);

```

```
ALTER TABLE "default"."Currency" OWNER TO postgres;

--
-- TOC entry 204 (class 1259 OID 16610)
-- Name: Deposit; Type: TABLE; Schema: default; Owner: postgres
--
```

```
CREATE TABLE "default"."Deposit" (
    deposit_id integer NOT NULL,
    min_term integer,
    max_term integer,
    term integer NOT NULL,
    interest integer NOT NULL,
    min_sum integer,
    currency_id integer NOT NULL,
    name character varying(30)[] NOT NULL,
    depositor_id integer NOT NULL,
    CONSTRAINT above_than_zero CHECK ((min_term > 0))
);
```

```
ALTER TABLE "default"."Deposit" OWNER TO postgres;

--
-- TOC entry 205 (class 1259 OID 16617)
-- Name: Deposit_contract; Type: TABLE; Schema: default; Owner: postgres
--
```

```
CREATE TABLE "default"."Deposit_contract" (
    deposit_cont_id integer NOT NULL,
    deposit_date date NOT NULL,
    return_date date NOT NULL,
    deposit_sum double precision NOT NULL,
    return_sum double precision NOT NULL,
    comment character varying(150)[],
    worker_id integer NOT NULL,
    depositor_id integer NOT NULL,
    deposit_id integer
);
```

```

ALTER TABLE "default"."Deposit_contract" OWNER TO postgres;

--
-- TOC entry 206 (class 1259 OID 16623)
-- Name: Depositor; Type: TABLE; Schema: default; Owner: postgres
--

CREATE TABLE "default"."Depositor" (
    deposit_id integer NOT NULL,
    min_term integer,
    max_term integer,
    term integer NOT NULL,
    interest integer NOT NULL,
    min_sum integer,
    currency_id integer,
    name character varying(30)[]
);

ALTER TABLE "default"."Depositor" OWNER TO postgres;

--
-- TOC entry 207 (class 1259 OID 16629)
-- Name: Payment; Type: TABLE; Schema: default; Owner: postgres
--

CREATE TABLE "default"."Payment" (
    payment_id integer NOT NULL,
    sum integer NOT NULL,
    pay_date date,
    credit_cont_id integer NOT NULL
);

ALTER TABLE "default"."Payment" OWNER TO postgres;

--
-- TOC entry 208 (class 1259 OID 16632)

```

-- Name: Position; Type: TABLE; Schema: default; Owner: postgres

--

```
CREATE TABLE "default"."Position" (  
    position_id integer NOT NULL,  
    name character varying(50)[] NOT NULL,  
    salary double precision NOT NULL,  
    category character varying(20)[] NOT NULL  
);
```

ALTER TABLE "default"."Position" OWNER TO postgres;

--

-- TOC entry 209 (class 1259 OID 16638)

-- Name: Worker; Type: TABLE; Schema: default; Owner: postgres

--

```
CREATE TABLE "default"."Worker" (  
    worker_id integer NOT NULL,  
    last_name character varying(30)[] NOT NULL,  
    middle_name character varying(30)[] NOT NULL,  
    first_name character varying(30)[] NOT NULL,  
    phone_number character varying(15)[],  
    passport_type character varying(20)[] NOT NULL,  
    passport_num character varying(20)[] NOT NULL,  
    birth_day date NOT NULL,  
    address character varying(150)[] NOT NULL,  
    position_id integer  
);
```

ALTER TABLE "default"."Worker" OWNER TO postgres;

--

-- TOC entry 2900 (class 2604 OID 24858)

-- Name: Credit_status id; Type: DEFAULT; Schema: default; Owner: postgres

--

```
ALTER TABLE ONLY "default"."Credit_status" ALTER COLUMN id SET DEFAULT
nextval('"default"."Credit_status_id_seq"::regclass);
```

```
--
```

```
-- TOC entry 3070 (class 0 OID 16592)
```

```
-- Dependencies: 201
```

```
-- Data for Name: Credit; Type: TABLE DATA; Schema: default; Owner: postgres
```

```
--
```

```
COPY "default"."Credit" (credit_id, name, min_term, max_term, term, interest, min_sum,
max_sum, currency_id) FROM stdin;
```

| | | | | | | | | |
|---|---------|----|----|----|--------|--------|----|---|
| 1 | {Short} | \N | \N | 6 | 100000 | 90000 | \N | 1 |
| 2 | {Short} | \N | \N | 6 | 100000 | 90000 | \N | 1 |
| 3 | {Short} | \N | \N | 6 | 100000 | 90000 | \N | 1 |
| 4 | {Short} | \N | \N | 12 | 150000 | 120000 | \N | 2 |

\\.

```
--
```

```
-- TOC entry 3071 (class 0 OID 16598)
```

```
-- Dependencies: 202
```

```
-- Data for Name: Credit_contract; Type: TABLE DATA; Schema: default; Owner:
postgres
```

```
--
```

```
COPY "default"."Credit_contract" (credit_cont_id, credit_date, repay_date, credit_sum,
repay_sum, comment, worker_id, depositor_id, credit_id) FROM stdin;
```

| | | | | | | | | |
|---|------------|------------|--------|--------|----|---|---|---|
| 1 | 2022-04-19 | 2022-10-20 | 100000 | 120000 | {} | 1 | | |
| 2 | 1 | | | | | | | |
| 2 | 2022-04-15 | 2022-10-20 | 70000 | 80000 | {} | 1 | 2 | 2 |
| 3 | 2022-05-15 | 2022-10-20 | 55000 | 60000 | {} | 1 | 3 | 3 |
| 4 | 2022-05-10 | 2023-01-10 | 70000 | 100000 | {} | 2 | | 1 |
| 2 | | | | | | | | |
| 5 | 2022-03-12 | 2022-04-12 | 100000 | 10000 | {} | 1 | | 2 |
| 4 | | | | | | | | |

\\.

```
--
```

```
-- TOC entry 3080 (class 0 OID 24855)
-- Dependencies: 211
-- Data for Name: Credit_status; Type: TABLE DATA; Schema: default; Owner: postgres
--
```

```
COPY "default"."Credit_status" (id, "Status") FROM stdin;
```

```
1      \N
2      \N
\.
```

```
--
-- TOC entry 3072 (class 0 OID 16604)
-- Dependencies: 203
-- Data for Name: Currency; Type: TABLE DATA; Schema: default; Owner: postgres
--
```

```
COPY "default"."Currency" (currency_id, name) FROM stdin;
```

```
1      {$}
2      {P}
3      {Евро}
\.
```

```
--
-- TOC entry 3073 (class 0 OID 16610)
-- Dependencies: 204
-- Data for Name: Deposit; Type: TABLE DATA; Schema: default; Owner: postgres
--
```

```
COPY "default"."Deposit" (deposit_id, min_term, max_term, term, interest, min_sum,
currency_id, name, depositor_id) FROM stdin;
```

```
1      \N \N    24    20000 \N    1      {"Виктор Соловьев"}      1
2      \N \N    12    50000 \N    1      {"Виктор Соловьев"}      1
3      \N \N    12    20000 \N    1      {"Анна Григорьева"}      2
4      \N \N    36    150000 \N    2      {"Анна Григорьева"}
2
5      \N \N    12    102090 \N    3      {"Анна Григорьева"}
2
\.
```

```
--
-- TOC entry 3074 (class 0 OID 16617)
-- Dependencies: 205
-- Data for Name: Deposit_contract; Type: TABLE DATA; Schema: default; Owner: postgres
--
```

```
COPY "default"."Deposit_contract" (deposit_cont_id, deposit_date, return_date,
deposit_sum, return_sum, comment, worker_id, depositor_id, deposit_id) FROM stdin;
2      2022-02-20      2024-02-20      150000      250000      \N      1
      2      1
3      2022-05-01      2025-01-05      300000      350000      \N      2
      1      2
4      2022-05-01      2025-01-05      300000      350000      \N      1
      3      3
1      2022-02-20      2023-02-20      100000      170000      \N      1
      1      1
\.
```

```
--
-- TOC entry 3075 (class 0 OID 16623)
-- Dependencies: 206
-- Data for Name: Depositor; Type: TABLE DATA; Schema: default; Owner: postgres
--
```

```
COPY "default"."Depositor" (deposit_id, min_term, max_term, term, interest, min_sum,
currency_id, name) FROM stdin;
1      \N \N      20      2000 \N      \N      {"Виктор Соловьев"}
2      \N \N      12      10000 \N      \N      {"Анна Григорьева"}
3      \N \N      24      25000 \N      \N      {"Евгений Смирнов"}
\.
```

```
--
-- TOC entry 3076 (class 0 OID 16629)
-- Dependencies: 207
-- Data for Name: Payment; Type: TABLE DATA; Schema: default; Owner: postgres
```



```

--

COPY "default"."Payment" (payment_id, sum, pay_date, credit_cont_id) FROM stdin;
1          10000      2022-05-27    4
\.
```

```

--
-- TOC entry 3077 (class 0 OID 16632)
-- Dependencies: 208
-- Data for Name: Position; Type: TABLE DATA; Schema: default; Owner: postgres
--

COPY "default"."Position" (position_id, name, salary, category) FROM stdin;
1          {Менеджер}      30000 {Первая}
\.
```

```

--
-- TOC entry 3078 (class 0 OID 16638)
-- Dependencies: 209
-- Data for Name: Worker; Type: TABLE DATA; Schema: default; Owner: postgres
--

COPY   "default"."Worker"   (worker_id,   last_name,   middle_name,   first_name,
phone_number, passport_type, passport_num, birth_day, address, position_id) FROM stdin;
1          {Зубенко} {Федоровна} {Алла}          {+79063842299}    {RU}
          {123478801}      2000-03-19   {"Вяземский 5"}   \N
2          {Зендина} {Владимировна}   {Елена}          {+79063843399}    {RU}
          {74563705}      1995-01-19   {"Адмирала Кныша 4"} \N
\.
```

```

--
-- TOC entry 3087 (class 0 OID 0)
-- Dependencies: 210
-- Name: Credit_status_id_seq; Type: SEQUENCE SET; Schema: default; Owner:
postgres
--
```

```

SELECT pg_catalog.setval('"default"."Credit_status_id_seq"', 1, false);

--
-- TOC entry 2902 (class 2606 OID 16645)
-- Name: Credit Credit_pkey; Type: CONSTRAINT; Schema: default; Owner: postgres
--

ALTER TABLE ONLY "default"."Credit"
    ADD CONSTRAINT "Credit_pkey" PRIMARY KEY (credit_id);

--
-- TOC entry 2927 (class 2606 OID 24863)
-- Name: Credit_status Credit_status_pkey; Type: CONSTRAINT; Schema: default;
Owner: postgres
--

ALTER TABLE ONLY "default"."Credit_status"
    ADD CONSTRAINT "Credit_status_pkey" PRIMARY KEY (id);

--
-- TOC entry 2908 (class 2606 OID 16647)
-- Name: Currency Currency_pkey; Type: CONSTRAINT; Schema: default; Owner:
postgres
--

ALTER TABLE ONLY "default"."Currency"
    ADD CONSTRAINT "Currency_pkey" PRIMARY KEY (currency_id);

--
-- TOC entry 2915 (class 2606 OID 16649)
-- Name: Deposit_contract Deposit_contract_pkey; Type: CONSTRAINT; Schema:
default; Owner: postgres
--

ALTER TABLE ONLY "default"."Deposit_contract"
    ADD CONSTRAINT "Deposit_contract_pkey" PRIMARY KEY (deposit_cont_id);

```

```

--
-- TOC entry 2911 (class 2606 OID 16651)
-- Name: Deposit Deposit_pkey; Type: CONSTRAINT; Schema: default; Owner: postgres
--

ALTER TABLE ONLY "default"."Deposit"
    ADD CONSTRAINT "Deposit_pkey" PRIMARY KEY (deposit_id);

--
-- TOC entry 2918 (class 2606 OID 16653)
-- Name: Depositor Depositor_pkey; Type: CONSTRAINT; Schema: default; Owner:
postgres
--

ALTER TABLE ONLY "default"."Depositor"
    ADD CONSTRAINT "Depositor_pkey" PRIMARY KEY (deposit_id);

--
-- TOC entry 2920 (class 2606 OID 16655)
-- Name: Payment Payment_pkey; Type: CONSTRAINT; Schema: default; Owner:
postgres
--

ALTER TABLE ONLY "default"."Payment"
    ADD CONSTRAINT "Payment_pkey" PRIMARY KEY (payment_id);

--
-- TOC entry 2922 (class 2606 OID 16657)
-- Name: Position Position_pkey; Type: CONSTRAINT; Schema: default; Owner:
postgres
--

ALTER TABLE ONLY "default"."Position"
    ADD CONSTRAINT "Position_pkey" PRIMARY KEY (position_id);

```

```

--
-- TOC entry 2924 (class 2606 OID 16659)
-- Name: Worker Worker_pkey; Type: CONSTRAINT; Schema: default; Owner: postgres
--

ALTER TABLE ONLY "default"."Worker"
    ADD CONSTRAINT "Worker_pkey" PRIMARY KEY (worker_id);

--
-- TOC entry 2898 (class 2606 OID 16660)
-- Name: Deposit_contract above_zero; Type: CHECK CONSTRAINT; Schema: default;
Owner: postgres
--

ALTER TABLE "default"."Deposit_contract"
    ADD CONSTRAINT above_zero CHECK (((deposit_sum > (0)::double precision)
AND (return_sum > (0)::double precision))) NOT VALID;

--
-- TOC entry 2896 (class 2606 OID 16661)
-- Name: Credit above_zero; Type: CHECK CONSTRAINT; Schema: default; Owner:
postgres
--

ALTER TABLE "default"."Credit"
    ADD CONSTRAINT above_zero CHECK (((min_term > 0) AND (max_term > 0) AND
(term > 0) AND (min_sum > 0) AND (max_sum > 0))) NOT VALID;

--
-- TOC entry 2899 (class 2606 OID 16662)
-- Name: Payment above_zero; Type: CHECK CONSTRAINT; Schema: default; Owner:
postgres
--

ALTER TABLE "default"."Payment"
    ADD CONSTRAINT above_zero CHECK ((sum > 0)) NOT VALID;

```

```

--
-- TOC entry 2905 (class 2606 OID 16664)
-- Name: Credit_contract credit_cont_idPK; Type: CONSTRAINT; Schema: default;
Owner: postgres
--

ALTER TABLE ONLY "default"."Credit_contract"
ADD CONSTRAINT "credit_cont_idPK" PRIMARY KEY (credit_cont_id);

--
-- TOC entry 2912 (class 1259 OID 24865)
-- Name: complex_index; Type: INDEX; Schema: default; Owner: postgres
--

CREATE INDEX complex_index ON "default"."Deposit" USING btree (depositor_id,
name, currency_id);

--
-- TOC entry 2916 (class 1259 OID 24867)
-- Name: complex_index1; Type: INDEX; Schema: default; Owner: postgres
--

CREATE INDEX complex_index1 ON "default"."Deposit_contract" USING btree
(deposit_date, deposit_id, worker_id);

--
-- TOC entry 2925 (class 1259 OID 24869)
-- Name: complex_index2; Type: INDEX; Schema: default; Owner: postgres
--

CREATE INDEX complex_index2 ON "default"."Worker" USING btree (worker_id,
first_name);

--

```

```

-- TOC entry 2903 (class 1259 OID 24870)
-- Name: complex_index3; Type: INDEX; Schema: default; Owner: postgres
--

CREATE INDEX complex_index3 ON "default"."Credit_contract" USING btree
(credit_date, worker_id);

--
-- TOC entry 2909 (class 1259 OID 24864)
-- Name: simple_index; Type: INDEX; Schema: default; Owner: postgres
--

CREATE INDEX simple_index ON "default"."Currency" USING btree (name);

--
-- TOC entry 2913 (class 1259 OID 24866)
-- Name: simple_index1; Type: INDEX; Schema: default; Owner: postgres
--

CREATE INDEX simple_index1 ON "default"."Deposit" USING btree (interest);

--
-- TOC entry 2906 (class 1259 OID 24868)
-- Name: simple_index2; Type: INDEX; Schema: default; Owner: postgres
--

CREATE INDEX simple_index2 ON "default"."Credit_contract" USING btree
(credit_date);

--
-- TOC entry 2928 (class 2606 OID 16665)
-- Name: Credit Currency_idFK; Type: FK CONSTRAINT; Schema: default; Owner:
postgres
--

ALTER TABLE ONLY "default"."Credit"

```

```
ADD CONSTRAINT "Currency_idFK" FOREIGN KEY (currency_id) REFERENCES
"default"."Currency"(currency_id) NOT VALID;
```

```
--
-- TOC entry 2938 (class 2606 OID 16670)
-- Name: Payment credit_cont_id; Type: FK CONSTRAINT; Schema: default; Owner:
postgres
```

```
ALTER TABLE ONLY "default"."Payment"
ADD CONSTRAINT credit_cont_id FOREIGN KEY (credit_cont_id) REFERENCES
"default"."Credit"(credit_id) NOT VALID;
```

```
--
-- TOC entry 2929 (class 2606 OID 16675)
-- Name: Credit_contract credit_id; Type: FK CONSTRAINT; Schema: default; Owner:
postgres
```

```
ALTER TABLE ONLY "default"."Credit_contract"
ADD CONSTRAINT credit_id FOREIGN KEY (credit_id) REFERENCES
"default"."Credit"(credit_id);
```

```
--
-- TOC entry 2932 (class 2606 OID 16680)
-- Name: Deposit currency_idFK; Type: FK CONSTRAINT; Schema: default; Owner:
postgres
```

```
ALTER TABLE ONLY "default"."Deposit"
ADD CONSTRAINT "currency_idFK" FOREIGN KEY (currency_id) REFERENCES
"default"."Currency"(currency_id) NOT VALID;
```

```
--
-- TOC entry 2933 (class 2606 OID 16685)
```

```
-- Name: Deposit deposit_idFK; Type: FK CONSTRAINT; Schema: default; Owner:
postgres
```

```
--
```

```
ALTER TABLE ONLY "default"."Deposit"
    ADD CONSTRAINT "deposit_idFK" FOREIGN KEY (deposit_id) REFERENCES
"default"."Deposit"(deposit_id) NOT VALID;
```

```
--
```

```
-- TOC entry 2935 (class 2606 OID 16690)
```

```
-- Name: Deposit_contract deposit_idFK; Type: FK CONSTRAINT; Schema: default;
Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY "default"."Deposit_contract"
    ADD CONSTRAINT "deposit_idFK" FOREIGN KEY (deposit_id) REFERENCES
"default"."Deposit"(deposit_id);
```

```
--
```

```
-- TOC entry 2934 (class 2606 OID 16695)
```

```
-- Name: Deposit depositor_idFK; Type: FK CONSTRAINT; Schema: default; Owner:
postgres
```

```
--
```

```
ALTER TABLE ONLY "default"."Deposit"
    ADD CONSTRAINT "depositor_idFK" FOREIGN KEY (depositor_id)
REFERENCES "default"."Depositor"(depositor_id) NOT VALID;
```

```
--
```

```
-- TOC entry 2930 (class 2606 OID 16700)
```

```
-- Name: Credit_contract depositor_idFK; Type: FK CONSTRAINT; Schema: default;
Owner: postgres
```

```
--
```

```
ALTER TABLE ONLY "default"."Credit_contract"
    ADD CONSTRAINT "depositor_idFK" FOREIGN KEY (depositor_id)
REFERENCES "default"."Depositor"(depositor_id);
```



```
--  
-- TOC entry 2936 (class 2606 OID 16705)  
-- Name: Deposit_contract depositor_idFK; Type: FK CONSTRAINT; Schema: default;  
Owner: postgres  
--
```

```
ALTER TABLE ONLY "default"."Deposit_contract"  
ADD CONSTRAINT "depositor_idFK" FOREIGN KEY (depositor_id)  
REFERENCES "default"."Depositor"(deposit_id);
```

```
--  
-- TOC entry 2939 (class 2606 OID 16710)  
-- Name: Worker position_id; Type: FK CONSTRAINT; Schema: default; Owner:  
postgres  
--
```

```
ALTER TABLE ONLY "default"."Worker"  
ADD CONSTRAINT position_id FOREIGN KEY (position_id) REFERENCES  
"default"."Position"(position_id) NOT VALID;
```

```
--  
-- TOC entry 2931 (class 2606 OID 16715)  
-- Name: Credit_contract worker_idFK; Type: FK CONSTRAINT; Schema: default;  
Owner: postgres  
--
```

```
ALTER TABLE ONLY "default"."Credit_contract"  
ADD CONSTRAINT "worker_idFK" FOREIGN KEY (worker_id) REFERENCES  
"default"."Worker"(worker_id);
```

```
--  
-- TOC entry 2937 (class 2606 OID 16720)  
-- Name: Deposit_contract worker_idFK; Type: FK CONSTRAINT; Schema: default;  
Owner: postgres  
--
```

```
ALTER TABLE ONLY "default"."Deposit_contract"  
    ADD CONSTRAINT "worker_idFK" FOREIGN KEY (worker_id) REFERENCES  
"default"."Worker"(worker_id);
```

```
-- Completed on 2022-06-05 21:51:53
```

```
--
```

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

```
--
```

Вывод: я ознакомилась с таким инструментом, как PgAdmin4. Мной была создана новая схема и база данных с таблицами, содержащими ограничения целостности (CHECK) и первичные/внешние ключи. Мной были сделаны 2 бэкапа (в формате Plain и Custom), также я успешно я восстановила базу данных.