МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РОССИЙСКОЙ ФЕДЕРАЦИИ
ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ АВТОНОМНОЕ ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ

«Национальный исследовательский университет ИТМО»

Факультет информационных технологий и программирования

Лабораторная работа №4

по предмету "Проектирование баз данных"
Вариант 1

Выполнил студент группы M34051
Кузнецов Илья

Преподаватель Демина Л.С.

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Вариант 1. Заказ продуктов, товаров в магазине

Скрипт анонимизации данных:

```
ALTER DATABASE postgres SET session_preload_libraries = 'anon';
ALTER DATABASE postgres SET anon.sourceschema = 'public';
CREATE EXTENSION IF NOT EXISTS anon with schema public CASCADE;

SELECT anon.start_dynamic_masking();

CREATE ROLE skynet LOGIN;
SECURITY LABEL FOR anon ON ROLE skynet IS 'MASKED';

SECURITY LABEL FOR anon ON COLUMN public.app_user.username
    IS 'MASKED WITH FUNCTION anon.random_string(5)';
SECURITY LABEL FOR anon ON COLUMN public.app_user.password
    IS 'MASKED WITH FUNCTION anon.random_string(5)';
SECURITY LABEL FOR anon ON COLUMN public.app_user.name
    IS 'MASKED WITH FUNCTION anon.fake_first_name()';
SECURITY LABEL FOR anon ON COLUMN public.app_user.surname
    IS 'MASKED WITH FUNCTION anon.fake_last_name()';
SECURITY LABEL FOR anon ON COLUMN public.app_user.phone_number
    IS 'MASKED WITH FUNCTION anon.random_phone()';

CREATE MATERIALIZED VIEW store_anon AS
SELECT gen_random_uuid() AS id,
       anon.pseudo_company(name) AS name,
       anon.pseudo_city(location) AS location
FROM store;

CREATE MATERIALIZED VIEW store_product_anon AS
SELECT gen_random_uuid() AS id,
       anon.random_in(array(SELECT id FROM product LIMIT 100)) AS product_id,
       anon.random_in(array(SELECT id FROM store LIMIT 100)) AS store_id,
       anon.random_int_between(0, 1000) as amount
FROM store_product;
```

Выполнение запросов:

```
SELECT * FROM app_user LIMIT 20;
```

id	username	password	name	surname	phone_number	verified
36af0724-76fe-4cfb-ad64-cbb636fc053f	VHDBH	KV3SN	Joell	Langworth	0439910103	t
30bc2560-a00d-4f28-8eea-dcbdeee15c2a	OI60P	5UGO2	Verna	Towne	0876220281	t
0a545f2f-fc02-	1IUS3	0S55Q	Fae	Treutel	0387185139	t

4a52-93c4-3233c5599ec8						
fbd72dea-5315-4e65-884b-26ba4b9cb1a5	1MEVK	V34N4	Magnolia	Hessel	0775565719	f
c6426daa-3c91-4be9-a08b-72481ff2fc47	RC4F6	39WFI	Buffy	Simonis	0786900228	f
204c8ecc-5175-4cb1-a911-1bd6611d50af	TP4S5	0C4I4	Margaret	Trantow	0760446632	f
2d9a0c5c-6df7-4d47-ab83-5260d1bac593	4WBB4	5FB2R	Neva	Carter	0797963954	f
1760f02b-4d5d-4594-b9f1-4eaf96598535	5WITQ	48LHO	Harrison	Ankunding	0758530279	f
abaf343a-b3f0-4f52-8ed8-3f49f7f04eb5	EZTHV	YIBW0	Rosalyn	Christiansen	0351169219	f
8ec58254-c426-49d1-be6b-2e282aa624ca	MLRGY	BIVDY	Ira	Schimmel	0767233813	f
feab028c-6167-4801-9bd7-28afbad38c05	T7KMS	627LK	Toccara	Gorczany	0253998628	f
e207d8c5-32a0-42ea-8d40-d64660410316	3H673	LPD03	Rigoberto	Orn	0286171274	f
cb84dcc4-30ab-47c6-b9d9-56981a9bbdf3	1YJLQ	PREAI	Raymundo	Quitzon	0188352406	f

ed9e8b28-a99c-4d94-9aec-c557d5d09267	CPZ2S	5GV8R	Tenika	Sipes	0969110057	f
e75bc944-b93b-45be-8aab-15b4b574e3c9	OOD4V	ZYHJ2	Maricela	Cruickshank	0469246043	f
936ee13b-3586-416c-80ef-099490ab5127	KFOE4	Y3U73	Madlyn	Stanton	0131814761	f
72df46d5-c594-49c7-a62c-4ab2cf5fabfe	I3BUR	86LT2	Minoru	Schneider	0588312360	f
a14f5a95-cfaf-4b70-b9e8-d82168a563e6	PG2V5	Q3FFZ	Giles	Lesch	0898213605	f
6991af32-0ce3-4d29-a75d-82e9c45c7918	S0EX3	MY0S2	Seth	Lakin	0501153978	f
6e81a46d-cef8-4788-a961-936b98a54f73	MWYO5	JUPJU	Jarrad	Berge	0494897455	f

(20 rows)

```
SELECT * FROM store_anon LIMIT 20;
```

id	name	location	
cdb46cf7-007d-40f9-9af8-8900c54df023	Snow-Rodriguez	Port Mariamouth	
c18d7f93-05bd-47ba-b596-d16796c0757b	Pollard and Sons	Turnertown	
ed8bd693-3b74-42b9-9b94-b69a90f8b608	Garcia, Pineda and Gibson	Paulhaven	

(3 rows)

```
SELECT * FROM store_product_anon LIMIT 20;
```

id	product_id	store_id	amount
b19252b6-43df-4ddd-9660-a2534bcf41fb	7e9c707d-946d-459c-9b4a-59baf522aa99	d33ae32d-599e-41bd-a7c9-91609728f440	950
2d7fbdfa-33b2-4628-810a-43790a720bfa	6bcad498-f012-499c-a32f-70325fec0e79	fcb3af22-21df-419d-94cc-1cac0ea56891	361
dd6fced4-5f4b-4cca-b8f5-6b994120d661	629a998c-16bf-4b1c-9554-c71b445c67f8	e0d430f5-ffdc-43e5-ad20-d9e37bc121ca	807
c9a499ba-967a-4467-9ab1-b23385c19327	9a97bb39-4414-4f6d-8db7-42d4f8a007e7	fcb3af22-21df-419d-94cc-1cac0ea56891	915
aaddef27-c0b6-4b5f-8b18-224278407471	56f402a2-ce28-4bb3-bda1-1a9c19cebb90	d33ae32d-599e-41bd-a7c9-91609728f440	353
efe8479e-22bd-4eb4-ad73-69493ecba4bd	fceb300d-82de-4e70-8a00-16f8d36bad59	d33ae32d-599e-41bd-a7c9-91609728f440	592
7c745070-d63d-4806-ade9-33436178bf5f	17344e94-379a-4768-ad22-34f71b6884fe	e0d430f5-ffdc-43e5-ad20-d9e37bc121ca	711
dbf77970-f12c-4dfa-a439-a0695a91ece4	6c37492b-5506-4746-a1c9-a6d08c4a988a	d33ae32d-599e-41bd-a7c9-91609728f440	273
d121daa6-6f98-41bb-b8e5-edd2e091c982	56fca410-f7c9-4051-a059-4231616350b3	fcb3af22-21df-419d-94cc-1cac0ea56891	103
be6cfad3-efe7-4e6d-8d9f-2ab6f5b7bb55	21ae40f8-171a-4275-9295-f38e024396f5	d33ae32d-599e-41bd-a7c9-91609728f440	879

(10 rows)