Лабораторная работа 14

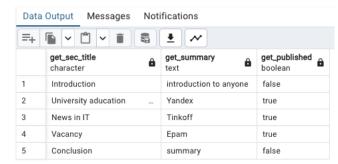**1. Разработать 2 хранимые процедуры** для формирования отчетных документов по специфике предметной области Вашего варианта индивидального задания и описанию выходных документов (ЛР-4).

```sql
CREATE OR REPLACE FUNCTION GET_INFORMATION(
    name_role CHAR(20)
) RETURNS TABLE(
    get_name CHAR(40),
    get_surname CHAR(40),
    w_title CHAR(50),
    h_placeofresidence CHAR(50),
    j_title CHAR(40),
    get_adress CHAR(40),
    get_email CHAR(40)
)
AS $$
BEGIN
    RETURN QUERY
    SELECT surname, name, w.title, h.placeofresidence, j.title, adress, email
    FROM participants p
    INNER JOIN names n ON p.name_id = n.id
    INNER JOIN roles r ON p.role_id = r.id
    LEFT JOIN workplace w ON p.workplace_id = w.id
    LEFT JOIN housing h ON p.housing_id = h.id
    LEFT JOIN jobtitle j ON p.jobtitle_id = j.id
    WHERE r.title = name_role;
END;
$$ LANGUAGE plpgsql;
```

Data Output   Messages   Notifications

CREATE FUNCTION

Query returned successfully in 43 msec.

```sql
SELECT * FROM GET_INFORMATION('lecture');
```

Data Output   Messages   Notifications

	get_name character	get_surname character	w_title character	h_placeofresidence character	j_title character	get_adress character	get_email character
1	Sobolevskaya	Elena	BSU	hotel "Belarus"	lecter at university	Independence st.,42	sobel@gmail.com
2	Kotov	Vladimir	BSU	BonHotel	lecter at university	Independence st.,23	kot@gmail.com
3	Tolstikov	Alexander	BSU	hotel "View"	software developer	Independence st.,15	altolst@gmail.com

```sql
CREATE OR REPLACE FUNCTION GET_INFORMATION_REPORT(
    num_meet INTEGER
) RETURNS TABLE(
    get_sec_title CHAR(40),
    get_summary TEXT,
    get_published BOOLEAN
)
AS $$
BEGIN
    RETURN QUERY
    SELECT s.title, summary, published
    FROM report r
    INNER JOIN meeting m ON r.meeting_id = m.id
    LEFT JOIN section s ON r.section_id = s.id
    WHERE m.number = num_meet;
END;
$$ LANGUAGE plpgsql;
```

Data Output | Messages | Notifications

CREATE FUNCTION

Query returned successfully in 47 msec.

```sql
SELECT * FROM GET_INFORMATION_REPORT(1);
```

Data Output | Messages | Notifications

	get_sec_title character	get_summary text	get_published boolean
1	Introduction	introduction to anyone	false
2	University aducation ...	Yandex	true
3	News in IT	Tinkoff	true
4	Vacancy	Epam	true
5	Conclusion	summary	false

2. Разработать 1 триггер для поддержания ограничений целостности БД предметной области Вашего варианта индивидального задания или выполнения заданных действий с некоторыми ее таблицами после определенных DML-запросов пользователей.

```sql
CREATE OR REPLACE FUNCTION new_email()
RETURNS TRIGGER AS $$
BEGIN
    UPDATE participants
    SET email = CASE
    WHEN email IS NULL THEN 'unknow@gmail.com'
    ELSE email
        END;
    RETURN NEW;
END;
$$ LANGUAGE plpgsql;
```

Data Output | Messages | Notifications

CREATE FUNCTION

Query returned successfully in 45 msec.

```
CREATE TRIGGER update_participants
AFTER INSERT ON participants
FOR EACH ROW
EXECUTE FUNCTION new_email();
```

Data Output | Messages | Notifications

CREATE TRIGGER

Query returned successfully in 42 msec.

```
SELECT * FROM public.participants
ORDER BY participant_id ASC;
```

Data Output | Messages | Notifications

	participant_id [PK] integer	role_id integer	name_id integer	workplace_id integer	housing_id integer	jobtitle_id integer	adress character	email character
1	1	1	1	1	1	1	Independence st.,42	sobel@gmail.com
2	2	1	2	1	4	2	Independence st.,15	altolst@gmail.com
3	3	1	3	1	5	1	Independence st.,23	kot@gmail.com
4	4	4	[null]	1	5	[null]	[null]	sec1@gmail.com
5	5	4	5	2	4	[null]	[null]	sec2@gmail.com
6	6	4	4	3	4	[null]	[null]	sec3@gmail.com
7	7	2	7	1	[null]	6	[null]	part1@gmail.com
8	8	2	6	2	[null]	6	[null]	part2@gmail.com
9	9	4	8	3	[null]	6	[null]	part3@gmail.com
10	10	3	9	4	2	3	Oktyabrskay st., 10	org1@gmail.com
11	11	3	10	5	3	2	Oktyabrskay st., 2	org2@gmail.com

```
INSERT INTO participants VALUES
(12, 1, 2, 4, 2, 2, NULL, NULL);
```

Data Output | Messages | Notifications

INSERT 0 1

Query returned successfully in 40 msec.

```sql
SELECT * FROM public.participants
ORDER BY participant_id ASC;
```

Data Output   Messages   Notifications

	participant_id [PK] integer	role_id integer	name_id integer	workplace_id integer	housing_id integer	jobtitle_id integer	adress character	email character
1	1	1	1	1	1	1	Independence st.,42 ...	sobel@gmail.com
2	2	1	2	1	4	2	Independence st.,15 ...	altolst@gmail.com
3	3	1	3	1	5	1	Independence st.,23 ...	kot@gmail.com
4	4	4	[null]	1	5	[null]	[null]	sec1@gmail.com
5	5	4	5	2	4	[null]	[null]	sec2@gmail.com
6	6	4	4	3	4	[null]	[null]	sec3@gmail.com
7	7	2	7	1	[null]	6	[null]	part1@gmail.com
8	8	2	6	2	[null]	6	[null]	part2@gmail.com
9	9	4	8	3	[null]	6	[null]	part3@gmail.com
10	10	3	9	4	2	3	Oktyabrskay st., 10 ...	org1@gmail.com
11	11	3	10	5	3	2	Oktyabrskay st., 2	org2@gmail.com
12	12	1	2	4	2	2	[null]	unknow@gmail.com

3. Создать 2 представления, представляющих выборочные данные отдельных таблиц БД предметной области вашего варианта индивидального задания.

```sql
CREATE VIEW organizers
AS
SELECT name, surname, adress, email
FROM participants
INNER JOIN names ON participants.name_id = names.id
INNER JOIN roles ON participants.role_id = roles.id
WHERE roles.title = 'organizer';
```
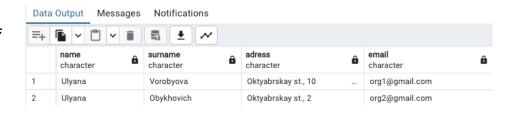
Data Output   Messages   Notifications

CREATE VIEW

Query returned successfully in 247 msec.

```sql
SELECT * FROM organizers;
```

Data Output   Messages   Notifications

	name character	surname character	adress character	email character
1	Ulyana	Vorobyova	Oktyabrskay st., 10 ...	org1@gmail.com
2	Ulyana	Obykhovich	Oktyabrskay st., 2	org2@gmail.com

```
CREATE VIEW reports
AS
SELECT s.title AS section_title, m.title AS
meeting_title, m.number AS meeting_number,
summary, published
FROM report r
INNER JOIN section s ON r.section_id = s.id
INNER JOIN meeting m ON r.meeting_id = m.id;
```

Data Output | Messages | Notifications

CREATE VIEW

Query returned successfully in 41 msec.

```
SELECT * FROM reports;
```

Data Output | Messages | Notifications

	section_title character	meeting_title character	meeting_number integer	summary text	published boolean
1	Introduction	summer internships	1	introduction to anyone	false
2	University aducation ...	summer internships	1	Yandex	true
3	News in IT	summer internships	1	Tinkoff	true
4	Vacancy	summer internships	1	Epam	true
5	Conclusion	summer internships	1	summary	false