

Домашняя работа.

Модуль «Базы данных и SQL (семинары)».

Урок 2. SQL – создание объектов, простые запросы выборки.

Задание

1. Используя операторы языка SQL, создайте таблицу “sales”. Заполните ее данными. Справа располагается рисунок к первому заданию.

id	order_date	count_product
1	2022-01-01	156
2	2022-01-02	180
3	2022-01-03	21
4	2022-01-04	124
5	2022-01-05	341

2. Для данных таблицы “sales” укажите тип заказа в зависимости от кол-ва :
меньше 100 - Маленький заказ
от 100 до 300 - Средний заказ
больше 300 - Большой заказ

id заказа	Тип заказа
1	Средний заказ
2	Средний заказ
3	Маленький заказ
4	Средний заказ
5	Большой заказ

Запрос/Скрипт/Код

```
/*-- Задание 1 --*/

-- создать таблицу, если не существует
CREATE TABLE if not exists public.sales (
    id integer NOT NULL GENERATED ALWAYS AS IDENTITY,
    order_date timestamp NULL,
    count_product integer NULL
);

-- удаление таблицы
--DROP TABLE public.sales;

-- добавление строк
INSERT INTO public.sales
(order_date, count_product)
VALUES
('2022-01-01 10:30:00', 156),
('2022-01-02 10:30:00', 180),
('2022-01-03 10:30:00', 21),
('2022-01-04 10:30:00', 124),
('2022-01-05 10:30:00', 341);

-- показать полностью таблицу
SELECT * FROM public.sales;

/* Для данных таблицы "sales" укажите тип заказа в зависимости от кол-ва :
меньше 100 - Маленький заказ
от 100 до 300 - Средний заказ
больше 300 - Большой заказ */
SELECT id,
case
    when count_product < 100
        then 'Маленький заказ'
    when (count_product >= 100) and (count_product < 300)
        then 'Средний заказ'
    when count_product >= 300
        then 'Большой заказ'
end as Order_type
FROM public.sales;
```

Скриншот

SELECT id, case when count_product

	id	order_type
1	1	Средний заказ
2	2	Средний заказ
3	3	Маленький заказ
4	4	Средний заказ
5	5	Большой заказ

Задание

3. Создайте таблицу "orders", заполните ее значениями

id	employee_id	amount	order_status
1	e03	15.00	OPEN
2	e01	25.50	OPEN
3	e05	100.70	CLOSED
4	e02	22.18	OPEN
5	e04	9.50	CANCELLED

Выберите все заказы. В зависимости от поля order_status выведите столбец full_order_status:
OPEN – «Order is in open state»; CLOSED - «Order is closed»; CANCELLED - «Order is cancelled»

Запрос/Скрипт/Код

```
/*-- Задание 2 --*/

-- создать таблицу, если не существует
CREATE TABLE if not exists public.orders (
    id integer NOT NULL GENERATED ALWAYS AS IDENTITY,
    employee_id varchar(5) NULL,
    amount decimal NULL,
    order_status varchar(20) NULL
);

-- добавление строк
INSERT INTO public.orders
(employee_id, amount, order_status)
VALUES
('e03', 15.00, 'OPEN'),
('e01', 25.50, 'OPEN'),
('e05', 100.70, 'CLOSED'),
('e02', 22.18, 'OPEN'),
('e04', 9.50, 'CANCELLED');

-- показать полностью таблицу
SELECT * FROM public.orders;

-- создание колонки с применением условий
SELECT id,
case
    when order_status = 'OPEN'
        then 'Order is in open state'
    when order_status = 'CLOSED'
        then 'Order is closed'
    when order_status = 'CANCELLED'
        then 'Order is cancelled'
end as full_order_status
from public.orders;
```

Скриншот

	id	full_order_status
1	1	Order is in open state
2	2	Order is in open state
3	3	Order is closed
4	4	Order is in open state
5	5	Order is cancelled

Задание

Файл со скриптом прикреплен к материалам(interview.sql):

Исходные данные

Запрос/Скрипт/Код

```
--DROP TABLE public.users;
create table if not exists users
(
    id integer UNIQUE NOT NULL GENERATED ALWAYS AS IDENTITY,
    login varchar(255),
    pass varchar(255),
    male integer
);

INSERT INTO users (login, pass, male) VALUES ('alex', '$2y$10$6SzbBCMENk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH14y', 1);
INSERT INTO users (login, pass, male) VALUES ('Mikle', '$ws$10$6SzbBCMENk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH14y', 1);
INSERT INTO users (login, pass, male) VALUES ('Olia', '$2y$10$88zbBCKLJk1StIgTqBKIluijJUnbeZ5WqI4RJgkksnFZon5kH14y', 2);
INSERT INTO users (login, pass, male) VALUES ('Tom', '$2y$20$6SzbBCNRNk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH20y', 1);
INSERT INTO users (login, pass, male) VALUES ('Margaret', '$2y$20$6SzbBCNRNk1StIgTqBKIluijJUnbeZ4wqIu4RJgkksnFZon5kH20y', 2);
INSERT INTO users (login, pass, male) VALUES ('alex', '$2y$10$6SzbBCMENk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH14y', 1);
INSERT INTO users (login, pass, male) VALUES ('Tom', '$2y$20$6SzbBCNRNk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH20y', 1);

SELECT * FROM public.users;

--DROP TABLE public.clients;
create table if not exists clients
(
    id integer unique NOT NULL GENERATED ALWAYS AS IDENTITY,
    login varchar(255),
    pass varchar(255),
    male integer
);

INSERT INTO clients (login, pass, male) VALUES ('alexander', '$2y$10$6SzbBCMENk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH14y', 1);
INSERT INTO clients (login, pass, male) VALUES ('Mikle', '$ws$10$6SzbBCMENk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH14y', 1);
INSERT INTO clients (login, pass, male) VALUES ('Olia', '$2y$10$88zbBCKLJk1StIgTqBKIluijJUnbeZ5WqI4RJgkksnFZon5kH14y', 2);
INSERT INTO clients (login, pass, male) VALUES ('Dmitry', '$2y$20$6SzbBCNRNk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH20y', 1);
INSERT INTO clients (login, pass, male) VALUES ('Margaret', '$2y$20$6SzbBCNRNk1StIgTqBKIluijJUnbeZ4wqIu4RJgkksnFZon5kH20y', 2);
INSERT INTO clients (login, pass, male) VALUES ('Leonid', '$2y$10$6SzbBCMENk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH14y', 1);
INSERT INTO clients (login, pass, male) VALUES ('Mikle', '$ws$10$6SzbBCMENk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH14y', 1);
INSERT INTO clients (login, pass, male) VALUES ('Olga', '$2y$10$88zbBCKLJk1StIgTqBKIluijJUnbeZ5WqI4RJgkksnFZon5kH14y', 2);
INSERT INTO clients (login, pass, male) VALUES ('Tom', '$2y$20$6SzbBCNRNk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH20y', 1);
INSERT INTO clients (login, pass, male) VALUES ('Masha', '$2y$20$6SzbBCNRNk1StIgTqBKIluijJUnbeZ4wqIu4RJgkksnFZon5kH20y', 2);
INSERT INTO clients (login, pass, male) VALUES ('alex', '$2y$10$6SzbBCMENk1StIgTqBKIluijJUnbeZ5WqIu4RJgkksnFZon5kH14y', 1);

SELECT * FROM public.clients;

--DROP TABLE public.posts;
create table if not exists posts
(
    id integer UNIQUE NOT NULL GENERATED ALWAYS AS IDENTITY,
    title varchar(255),
    full_text text,
    user_id integer
);

INSERT INTO posts (title, full_text, user_id) VALUES ('lorem ipsum', 'Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum h
INSERT INTO posts (title, full_text, user_id) VALUES ('Why do we use it?', 'It is a long established fact that a reader will be distracted by the readable cor
INSERT INTO posts (title, full_text, user_id) VALUES ('Where does it come from?', 'Contrary to popular belief, Lorem Ipsum is not simply random text. It has r
INSERT INTO posts (title, full_text, user_id) VALUES ('Where can I get some?', 'There are many variations of passages of Lorem Ipsum available, but the majori
INSERT INTO posts (title, full_text, user_id) VALUES ('Mauris fermentum', 'Mauris fermentum sapien feugiat, facilisis augue ac, volutpat eros. Vestibulum fauc
INSERT INTO posts (title, full_text, user_id) VALUES ('Vivamus sagittis dolor', 'Vivamus sagittis dolor eget finibus consequat. Duis imperdiet aliquam felis,
INSERT INTO posts (title, full_text, user_id) VALUES ('Aenean aliquam', 'Aenean aliquam sem ut tristique commodo. Aenean sed tincidunt elit, nec consectetur e
INSERT INTO posts (title, full_text, user_id) VALUES ('Etiam ornare', 'Etiam ornare augue vitae leo bibendum tristique. Nam libero augue, fermentum eu velit a
INSERT INTO posts (title, full_text, user_id) VALUES ('Sed ac ultricies eros', 'Sed ac ultricies eros. Aliquam vulputate quam turpis, quis vestibulum sem pret

SELECT * FROM public.posts;
```


Скриншот

	123 id	abc login	abc pass	123 male
1	1	alex	\$2y\$10\$6SzbBCMENklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH14y	1
2	2	Mikle	\$ws\$10\$6SzbBCMENklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH14y	1
3	3	Olia	\$2y\$10\$88zbBCKLJklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH14y	2
4	4	Tom	\$2y\$20\$6SzbBCNRNklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH20y	1
5	5	Margaret	\$2y\$20\$6SzbBCNRNklStlgTqBKiluijJUnbeZ4wqlu4RJgkksnFZon5kH20y	2
6	6	alex	\$2y\$10\$6SzbBCMENklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH14y	1
7	7	Tom	\$2y\$20\$6SzbBCNRNklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH20y	1

	123 id	abc login	abc pass	123 male
1	1	alexander	\$2y\$10\$6SzbBCMENklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH14y	1
2	2	Mikle	\$ws\$10\$6SzbBCMENklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH14y	1
3	3	Olia	\$2y\$10\$88zbBCKLJklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH14y	2
4	4	Dmitry	\$2y\$20\$6SzbBCNRNklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH20y	1
5	5	Margaret	\$2y\$20\$6SzbBCNRNklStlgTqBKiluijJUnbeZ4wqlu4RJgkksnFZon5kH20y	2
6	6	Leonid	\$2y\$10\$6SzbBCMENklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH14y	1
7	7	Mikle	\$ws\$10\$6SzbBCMENklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH14y	1
8	8	Olga	\$2y\$10\$88zbBCKLJklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH14y	2
9	9	Tom	\$2y\$20\$6SzbBCNRNklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH20y	1
10	10	Masha	\$2y\$20\$6SzbBCNRNklStlgTqBKiluijJUnbeZ4wqlu4RJgkksnFZon5kH20y	2
11	11	alex	\$2y\$10\$6SzbBCMENklStlgTqBKiluijJUnbeZ5Wqlu4RJgkksnFZon5kH14y	1

	123 id	abc title	abc full_text	123 user_id
1	1	lorem ipsum	Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard d	1
2	2	Why do we use it?	It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. The p	2
3	3	Where does it come from?	Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 l	3
4	4	Where can I get some?	There are many variations of passages of Lorem Ipsum available, but the majority have suffered alteration in some form, by ir	4
5	5	Mauris fermentum	Mauris fermentum sapien feugiat, facilisis augue ac, volutpat eros. Vestibulum faucibus urna arcu, eget dignissim libero varius	5
6	6	Vivamus sagittis dolor	Vivamus sagittis dolor eget finibus consequat. Duis imperdiet aliquam felis, sed auctor libero finibus eu. Duis sodales nisi ut s	6
7	7	Aenean aliquam	Aenean aliquam sem ut tristique commodo. Aenean sed tincidunt elit, nec consectetur est. Phasellus sagittis erat non mi digni	7
8	8	Etiam ornare	Etiam ornare augue vitae leo bibendum tristique. Nam libero augue, fermentum eu velit at, ultricies varius ligula. Nam mi nisl,	2
9	9	Sed ac ultricies eros	Sed ac ultricies eros. Aliquam vulputate quam turpis, quis vestibulum sem pretium nec. Class aptent taciti sociosqu ad litora t	3

Задание

Файл со скриптом прикреплен к материалам(interview.sql):

Используя оператор ALTER TABLE, установите внешний ключ в одной из таблиц (clients-posts)

Запрос/Скрипт/Код

```
-- Используя оператор ALTER TABLE, установите внешний ключ users-posts
ALTER TABLE posts
ADD CONSTRAINT fk_user_id FOREIGN KEY (user_id)
REFERENCES users (id);
```

Скриншот

	id	title	full_text	user_id
1	1	lorem ipsum	Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard d	1
2	2	Why do we use it?	It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. The p	2
3	3	Where does it come from?	Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 451	3
4	4	Where can I get some?	There are many variations of passages of Lorem Ipsum available, but the majority have suffered alteration in some form, by ir	4
5	5	Mauris fermentum	Mauris fermentum sapien feugiat, facilisis augue ac, volutpat eros. Vestibulum faucibus urna arcu, eget dignissim libero varius	5
6	6	Vivamus sagittis dolor	Vivamus sagittis dolor eget finibus consequat. Duis imperdiet aliquam felis, sed auctor libero finibus eu. Duis sodales nisi ut s	6
7	7	Aenean aliquam	Aenean aliquam sem ut tristique commodo. Aenean sed tincidunt elit, nec consectetur est. Phasellus sagittis erat non mi digni	7
8	8	Etiam ornare	Etiam ornare augue vitae leo bibendum tristique. Nam libero augue, fermentum eu velit at, ultricies varius ligula. Nam mi nisl,	2
9	9	Sed ac ultricies eros	Sed ac ultricies eros. Aliquam vulputate quam turpis, quis vestibulum sem pretium nec. Class aptent taciti sociosqu ad litora t	3

Задание

Файл со скриптом прикреплен к материалам(interview.sql):

Без оператора JOIN, верните заголовок публикации, текст с описанием, идентификатор клиента, опубликовавшего публикацию и логин данного клиента.

Запрос/Скрипт/Код

```
-- Без оператора JOIN, верните заголовок публикации, текст с описанием, идентификатор клиента, опубликовавшего публикацию и логин данного клиента.
select
  p.title,
  p.full_text,
  p.user_id,
  (select u.login from public.users u where u.id = p.user_id) as login
from public.posts p;
```

Скриншот

	title	full_text	user_id	login
1	lorem ipsum	Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standar	1	alex
2	Why do we use it?	It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. Th	2	Mikle
3	Where does it come from?	Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from	3	Olia
4	Where can I get some?	There are many variations of passages of Lorem Ipsum available, but the majority have suffered alteration in some form, b	4	Tom
5	Mauris fermentum	Mauris fermentum sapien feugiat, facilisis augue ac, volutpat eros. Vestibulum faucibus urna arcu, eget dignissim libero va	5	Margaret
6	Vivamus sagittis dolor	Vivamus sagittis dolor eget finibus consequat. Duis imperdiet aliquam felis, sed auctor libero finibus eu. Duis sodales nisi	6	alex
7	Aenean aliquam	Aenean aliquam sem ut tristique commodo. Aenean sed tincidunt elit, nec consectetur est. Phasellus sagittis erat non mi d	7	Tom
8	Etiam ornare	Etiam ornare augue vitae leo bibendum tristique. Nam libero augue, fermentum eu velit at, ultricies varius ligula. Nam mi n	2	Mikle
9	Sed ac ultricies eros	Sed ac ultricies eros. Aliquam vulputate quam turpis, quis vestibulum sem pretium nec. Class aptent taciti sociosqu ad litor	3	Olia

Задание

Файл со скриптом прикреплен к материалам(interview.sql):

Выполните поиск по публикациям, автором которых является клиент "Mikle".

Запрос/Скрипт/Код

```
-- Выполните поиск по публикациям, автором которых является клиент "Mikle".
select
  u.login,
  p.title,
  p.full_text
from users u INNER JOIN posts p
on (u.id = p.user_id) and (u.login = 'Mikle');
```

Скриншот

	login	title	full_text
1	Mikle	Why do we use it?	It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. The point of using Lore
2	Mikle	Etiam ornare	Etiam ornare augue vitae leo bibendum tristique. Nam libero augue, fermentum eu velit at, ultricies varius ligula. Nam mi nisl, tristique sed enim