

Lab work 2

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Task 1.

DDL is Data Definition Language, we use it to define data.

DML is Data Manipulate Language, we use it to manage, manipulate data.

a) Basic commands for DDL are CREATE, DROP, RENAME, ALTER for example:

```
CREATE TABLE customer(  
    id int NOT NULL PRIMARY KEY,  
    customer_name varchar(25) NOT NULL,  
    age int  
);
```

```
ALTER TABLE customer RENAME to client;
```

```
DROP TABLE client;
```

b) Basic commands for DML are INSERT, UPDATE, SELECT, MERGE for example:

```
INSERT INTO customer(1, 'Alisher', 20);
```

```
UPDATE customer SET age = 20 WHERE age = 21;
```

```
SELECT * FROM customer;
```

Task 2.

```
create table customers(  
    id int NOT NULL PRIMARY KEY,  
    full_name varchar(50) NOT NULL,  
    timestamp timestamp NOT NULL,  
    delivery_address text NOT NULL  
);  
CREATE TABLE orders(  
    code int NOT NULL PRIMARY KEY,  
    customer_id int REFERENCES customers(id),  
    total_sum double precision NOT NULL CHECK(total_sum>0),  
    is_paid boolean NOT NULL  
);  
CREATE TABLE products(  
    id varchar NOT NULL PRIMARY KEY,  
    name varchar NOT NULL UNIQUE ,  
    description text ,  
    price double precision NOT NULL CHECK (price > 0)  
);  
CREATE TABLE order_items(  
    order_code int REFERENCES orders(code),  
    product_id varchar references products(id),  
    quantity int NOT NULL CHECK ( quantity>0 ),  
    PRIMARY KEY (order_code,product_id)  
);
```

Task 3.

```
CREATE TABLE students(  
    full_name varchar PRIMARY KEY,  
    age integer NOT NULL,  
    birth_date date NOT NULL,  
    gender varchar NOT NULL,  
    average_grade double precision NOT NULL,  
    information text NOT NULL,  
    need_for_dorm boolean NOT NULL,  
    additional_info text  
);  
  
CREATE TABLE instructors(  
    full_name varchar NOT NULL PRIMARY KEY,  
    speaking_languages text,  
    remote_lessons boolean NOT NULL  
);  
  
CREATE TABLE work_experience(  
    job_title varchar NOT NULL PRIMARY KEY ,  
    full_name varchar REFERENCES instructors(full_name),  
    working_place varchar NOT NULL  
);  
  
CREATE TABLE lesson_participants(  
    lesson_title varchar REFERENCES lesson(subject_name),  
    teaching_instructor varchar REFERENCES instructors(full_name),  
    studying_student varchar REFERENCES students(full_name),  
    room_number integer NOT NULL  
);  
  
CREATE TABLE lesson(  
    subject_name varchar PRIMARY KEY  
);
```

Task 4.

```
INSERT INTO customers values(001,'Alisher','2021-08-24 01:05:30', 'Esentai  
city' );  
INSERT INTO orders values(1,001,999.99,true);  
INSERT INTO products values(1,'Iphone','Apple Inc.',999.99);  
INSERT INTO order_items values(1,1,10);  
  
UPDATE customers SET delivery_address='CLOUDS' WHERE  
delivery_address='Esentai city';  
UPDATE orders SET total_sum=979.99 where code=1;  
UPDATE products SET price=1000 where name='Iphone';  
UPDATE order_items SET quantity=9 where quantity = 10;  
  
DELETE FROM order_items WHERE order_code=1;  
DELETE FROM products WHERE name='IPAD';
```

```
DELETE FROM orders WHERE code=1;  
DELETE FROM customers WHERE delivery_address='CLOUDS';
```