Laboratory work № 1

#1

Data Definition Language (DDL) is used to create database schema and can be used to define some constraints as well.

Data Manipulation Language (DML) is used to add, retrieve or update the data.

a) 3 DDL: CREATE (creates a table), DROP (removes a table), ALTER (changes a table).

b) 4 DML: DELETE (removes rows in the table), UPDATE (Changes existing values in the table), SELECT (Retrieves data from one or more tables), INSERT (Adds rows to the table).

#2

```sql
create table customers(
    id integer PRIMARY KEY,
    full_name varchar(50) NOT NULL,
    timestamp timestamp NOT NULL ,
    delivery_address text NOT NULL
);

create table products(
    id varchar PRIMARY KEY,
    name varchar(50) UNIQUE NOT NULL ,
    description text,
    price double precision NOT NULL CHECK (price > 0 )
);

create table orders(
    code integer PRIMARY KEY ,
    customer_id integer ,
    total_sum double precision NOT NULL ,
    is_paid boolean NOT NULL ,
    foreign key(customer_id) references customers(id)
);

create table order_items(
    order_code integer,
    product_id varchar,
    quantity integer NOT NULL,
    foreign key (order_code) references orders(code),
    foreign key (product_id) references products(id)
);
```

#3

```sql
a) create table students(
       full_student_name varchar(50),
```

```
        age smallint,
        birth_date date,
        gender varchar(10),
        average_grade numeric(2,1),
        information_about_ourself text,
        the_need_for_a_dormitory boolean,
        additional_info text
    );
b) create table instructors(
        full_instructor_name varchar(50),
        speaking_languages text,
        work_experience smallint,
        the_possibility_of_having_remote_lessons boolean
    );
c) create table lesson_participants(
        lesson_title varchar(50),
        teaching_instructor varchar(50),
        studying_students varchar(50),
        room_number smallint
    );
```

#4

insertion:

```
insert into customers
    values (23, 'Aibek', 'January, 23 2017 12:01:45', 'Gashinin, 34');
```

update:

```
update order_items
    set quantity = quantity + 5
    where quantity < 20;
```

deletion:

```
delete from order_items where quantity > 10;
```