

## Homework 2

### 1. DDL:

- Helps you to define the database structure or schema
- Defines the column of the table
- Used to create the database schema
- DDL statements affect the whole table
- Declarative

### DML:

- Allows you to manage the data stored in the database
- Adds or updates the row of the table
- Imperative
- Used to populate and manipulate database
- Affects one or more rows

DDL commands: create, drop, alter, rename

DML commands: insert, update, delete, select

```
2. CREATE table if not exists customers
(
    id            integer,
    full_name     varchar(50) NOT NULL,
    timestamp     timestamp NOT NULL,
    delivery_address text NOT NULL,
    primary key (id)
);

CREATE table if not exists orders(
    code integer,
    customer_id integer UNIQUE,
    total_sum double precision NOT NULL
CHECK (total_sum>0),
    is_paid boolean NOT NULL,
    primary key (code)
);

CREATE table if not exists order_items(
    order_code integer,
    product_id varchar,
    quantity integer NOT NULL CHECK
(quantity>0),
    primary key (order_code,
product_id)
);

CREATE table if not exists products(
    id varchar,
    name varchar,
    description text NOT NULL,
    price double precision NOT NULL
```

```

CHECK (price>0),
                                primary key (id)
);

3. CREATE table university.students(
                                full_name varchar NOT NULL,
                                age integer NOT NULL,
                                birth_date date NOT NULL,
                                gender varchar(6) NOT NULL,
                                average_grade float8 NOT NULL
CHECK ( average_grade <= 5 ),
                                information_about_yourself
varchar,
                                the_need_for_dormitory bool
DEFAULT false,
                                additional_info varchar,
                                primary key (full_name)
);

create table university.instructors
(
    full_name varchar NOT NULL primary key,
    speaking_languages varchar NOT NULL,
    work_experience int NOT NULL CHECK ( work_experience >
0 ),
    possibility_of_having_remote_lessons bool DEFAULT false
);

create table university.lesson
(
    lesson_title varchar NOT NULL,
    teaching_instructor varchar NOT NULL,
    studying_students varchar NOT NULL,
    room_number int CHECK ( room_number > 0 )
);

alter table university.lesson
    add constraint lesson_instructors_null_fk
        foreign key (teaching_instructor) references
university.instructors (full_name);

alter table university.lesson
    add constraint lesson_students_null_fk
        foreign key (studying_students) references
university.students (full_name);

4. INSERT INTO customers (id, full_name, timestamp,
delivery_address) values (1, 'Inara Almagambetova',
CURRENT_TIMESTAMP, 'Tole bi 59');

INSERT INTO customers (id, full_name, timestamp,
delivery_address) values (2, 'Andrew', CURRENT_TIMESTAMP,
'Satpaeva 67');

```

```
INSERT INTO customers (id, full_name, timestamp,  
delivery_address) values (3, 'Alis', CURRENT_TIMESTAMP,  
'Gagrina 87');
```

```
DELETE FROM customers WHERE full_name = 'Alis';
```

```
UPDATE customers  
SET id = 2, full_name = 'Alina', timestamp =  
CURRENT_TIMESTAMP, delivery_address = 'Abaya 121'  
WHERE full_name = 'Andrew';
```