1.

DDL	DML
• Data Definition Language • For creating database scheme and its constraints • Defines the column of the table • Don't have classifications • Basic commands: CREATE, DROP, RENAME, etc. • No clauses	• Data Manipulation Language • For adding, retrieving and updating data • Adds or updates tuples • Classifies in two categories: Non-Procedural and Procedural • Basic commands: UPDATE, INSERT INTO, MERGE, etc. • We can use clauses

a. DDL commands:

i.

```
CREATE TABLE table0(
    primary_key int not null unique primary key ,
    atribute0 time not null,
    atribute1 varchar not null,
    atribute2 text
)
```

ii.

```
ALTER TABLE table0
ADD COLUMN attribute3 smallint not null
```

iii.

```
DROP TABLE table0
```

b. DML commands:

i.

```
INSERT INTO customers VALUES (1, 'NAME', TIMESTAMP'2020-01-01 00:00:00.000', 'ADDRESS')
```

ii.

```
UPDATE customers
SET full_name = 'Zhandos Ayupov'
WHERE full_name = 'NAME'
```

iii.

```
INSERT INTO products VALUES
(1, 'NAME', 'comments', 100.00)
```

iv.

```
UPDATE products
SET name = 'Milk'
WHERE id = '1'
```

2.

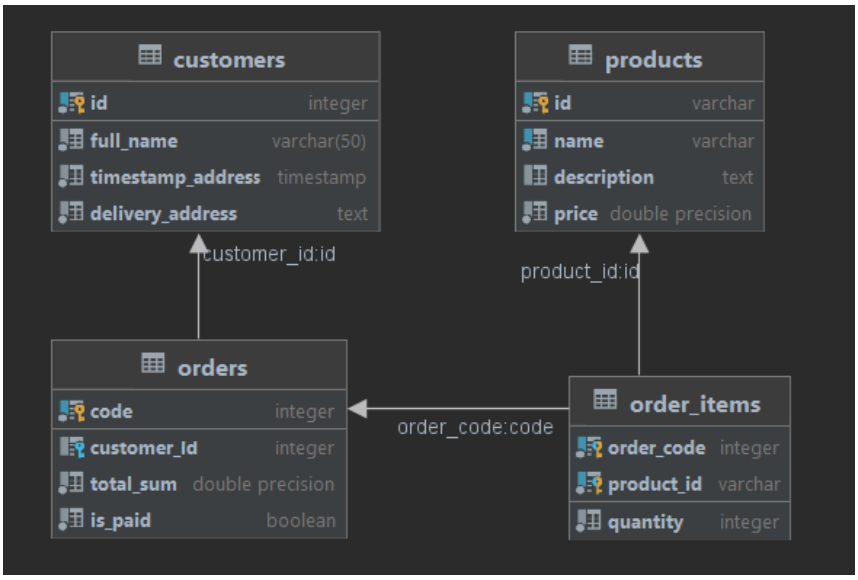
```
CREATE TABLE customers
       (
           id int unique not null primary key ,
           full_name varchar(50) not null,
           timestamp_address timestamp not null,
           delivery_address text not null
       )
```

```
CREATE TABLE orders
(
    code int not null unique primary key,
    customer_id int,
    total_sum double precision not null,
    is_paid boolean not null,
    foreign key (customer_id) references  customers(id)
)
```

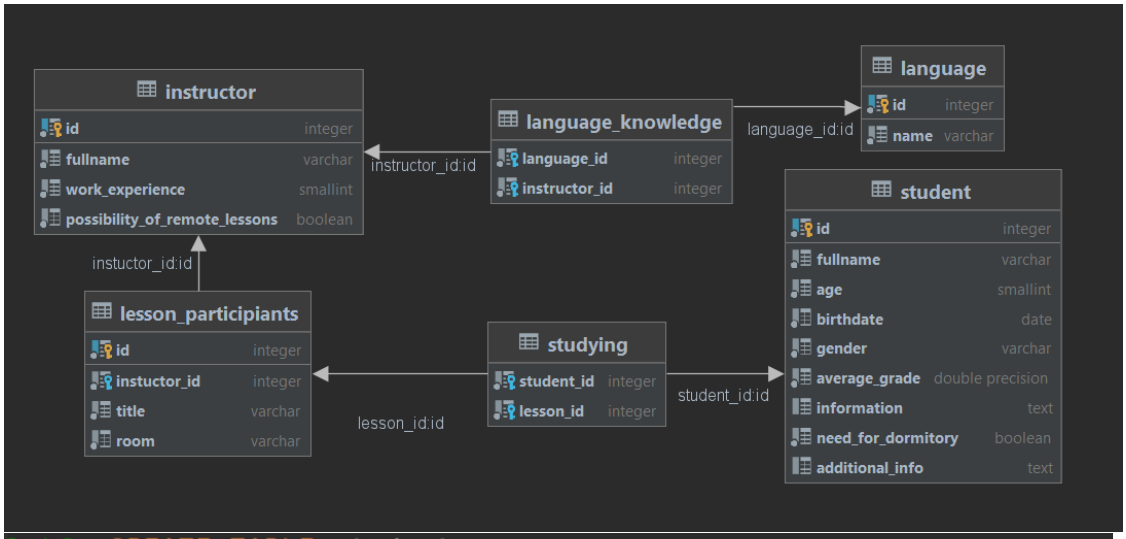
```
CREATE TABLE products
(
    id varchar primary key unique not null,
    name varchar unique not null,
    description text,
    price double precision not null
)
```

```
CREATE TABLE order_items
(
    order_code int unique not null,
    product_id varchar unique not null,
    quantity int not null,
    primary key (order_code,product_id),
    foreign key (order_code) references orders(code),
    foreign key (product_id) references products(id)
)
```

RESULT:



3.




```
lab2> CREATE TABLE student
      (
          id int unique not null primary key,
          fullname varchar not null,
          age smallint not null,
          birthdate date not null,
          gender varchar not null,
          average_grade double precision not null,
          information text,
          need_for_dormitory boolean not null,
          additional_info text,
          check(age >= 0 or age<=200),
          check (gender = 'Male' or gender = 'Female'),
          check(average_grade>=0.0 and average_grade<=4.0)
      )
[2021-09-23 11:26:41] completed in 55 ms
lab2.public> CREATE TABLE language
             (
                 id int unique not null primary key,
                 name varchar not null
             )
[2021-09-23 11:28:34] completed in 36 ms
lab2.public> CREATE TABLE instructor
             (
                 id int unique not null primary key,
                 fullname varchar not null,
                 work_experience smallint not null,
                 possibility_of_remote_lessons boolean not null,
                 check (work_experience>=0)
             )
[2021-09-23 11:28:54] completed in 27 ms
```

```
lab2.public> CREATE TABLE language_knowledge
             (
                 language_id int not null,
                 instructor_id int not null,
                 foreign key (language_id) references  language(id),
                 foreign key (instructor_id) references instructor(id)
             )
[2021-09-23 11:29:17] completed in 12 ms
lab2.public> CREATE TABLE lesson_participiants
             (
                 id int not null unique primary key,
                 instuctor_id int not null,
                 title varchar not null,
                 room varchar not null,
                 foreign key (instuctor_id) references instructor(id),
                 check (room>='001' and room<='999')
             )
[2021-09-23 11:32:37] completed in 23 ms
lab2.public> CREATE TABLE studying
             (
                 student_id int not null,
                 lesson_id int not null,
                 foreign key (student_id) references student(id),
                 foreign key (lesson_id) references lesson_participiants(id)
             )
[2021-09-23 11:33:32] completed in 6 ms
```

4.

```
INSERT INTO customers VALUES
(2,'Name2', TIMESTAMP'2021-05-05 21:34:34','Address2'),
(3,'Name3', TIMESTAMP'2019-05-05 19:34:34','Address3'),
(4,'Name4', TIMESTAMP'2021-03-05 21:12:34','Address4')
```

```
DELETE FROM customers
WHERE full_name = 'Zhandos Ayupov'
```

```
INSERT INTO orders VALUES
(1234, 2, 1000000.00, True)
```

```
UPDATE orders
SET total_sum = total_sum/2
WHERE code = 1234
```