1.Explain the difference between DDL and DML, give the followingexamples:

Data Definition Language (DDL) and Data Manipulation Language (DML) together forms a Database Language.

DDL it is used to create database schema and can be used to define some constraints as well.While DML used to add,retrieve or update the data.

DDL basically defines the attributes (columns) of the table.While DML add or update the tuple(row) of the table.

DDL does not use WHERE clause in its statement .While DML uses WHERE clause in its statement.

DDL sql statements can not rolling back.While DML sql statements can rolling back.

a) Create, Drop, Alter.

b) Insert, Update, Delete,Select.

2.Write SQL statements to create tables in the figure below:

```
drop database uni_db;
create database uni_db;
drop table customers;
create table  customers (
    id integer,
    full_name varchar(50),
    timestamp timestamp ,
    delivery_address text,
    PRIMARY KEY(id)

);
drop table orders;
create table orders(
    code integer,
    customer_id integer,
    total_sum double precision ,
    is_paid boolean,
    PRIMARY KEY(code),
    foreign key (customer_id) references customers(id)
);

drop table products;
create table products (
id varchar,
name varchar,
description text ,
price double precision,
PRIMARY KEY(id)
);
drop table order_items;
create table order_items (
    order_code integer,
    product_id varchar,
    quantity integer,
   PRIMARY KEY(order_code,product_id),
    foreign key (order_code) references orders(code),
```

```
        foreign key(product_id) references products(id)
);
```
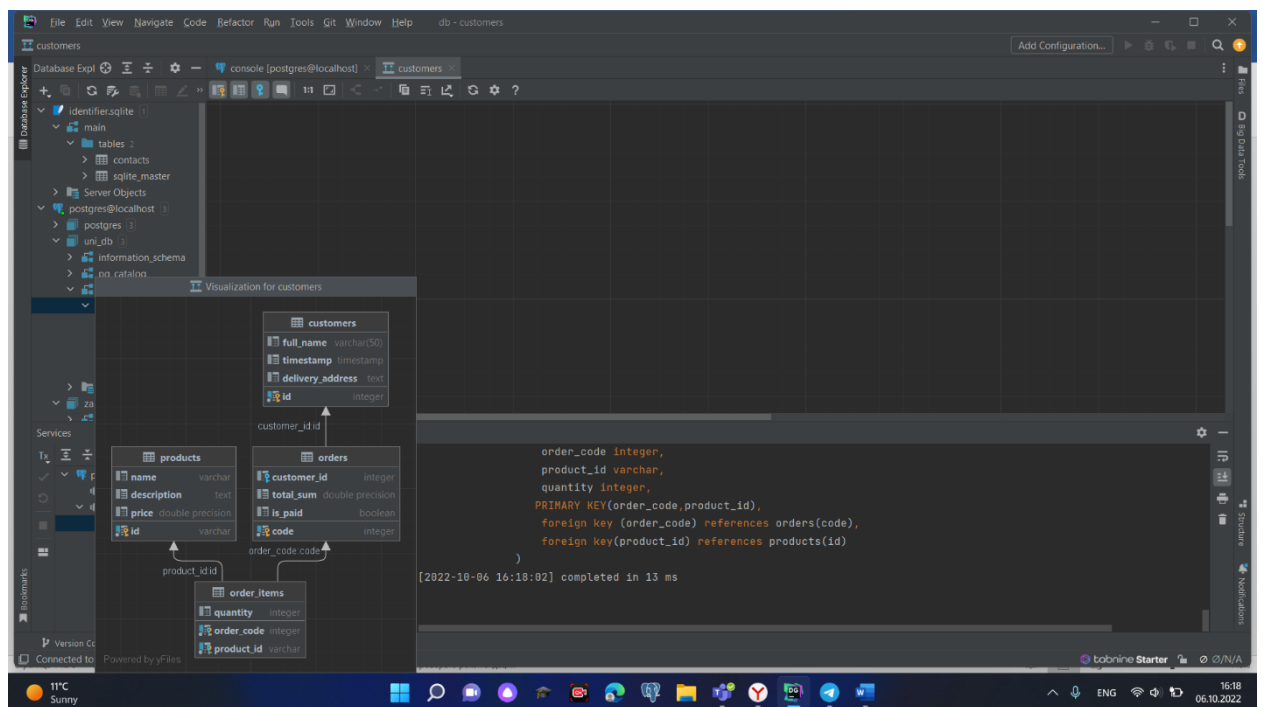

3.Write SQL statements describing tables with appropriate data typesand constraints satisfying the following conditions(maybe you needadditional tables to store data atomically and efficiently):

```sql
create table student(
    id integer ,
    full_name character varying(30),
    age integer,
    birth_date date,
    gender varchar check(gender in('male','female')),
    average_grade integer
    CONSTRAINT grade CHECK
        (average_grade>0 and average_grade<100),
    social_category character varying(30),
    phone_number varchar(11),
    primary key(id)
);
create table instructor(
    id integer ,
    full_name character varying(30) ,
    speaking_language character varying(20),
    work_experience varchar(30),
    possibility_of_remote_lessons boolean,
    foreign key(id) references student(id)

);
create table  shedule(
  id integer ,
  lesson_title character varying(20),
  teacher character varying (20),
  studying_students integer,
  room_number integer,
  foreign key (id) references student (id)
);
```

4. Give examples of insertion, update and deletion of data on tables from exercise 2

insert into orders(code,customer_id, total sum, is paid)

VALUES (12345,21085003,50 000 ,true),

   (98765,21060704,35 000,false);

UPDATE orders

SET is paid ='true'

WHERE hire_date ='false';

DELETE FROM orders

WHERE code= '23456';

select * from orders;