

1.

DDL (data definition language) describes database structure

DDL commands: CREATE, DROP, ALTER

DML (data manipulation language) works with data

DML commands: UPDATE, INSERT, DELETE, SELECT

2.

create table *customers*(

<i>ID</i>	integer PRIMARY KEY,
<i>full_name</i>	varchar(50) NOT NULL,
<i>timestamp</i>	timestamp NOT NULL,
<i>delivery_adress</i>	text NOT NULL

);

create table *orders*(

<i>code</i>	integer PRIMARY KEY,
<i>customer_id</i>	integer UNIQUE,
<i>total_sum</i>	double precision CHECK (total_sum > 0) NOT NULL,
<i>is_paid</i>	boolean NOT NULL,
foreign key (<i>customer_id</i>) references <i>customers</i>	

);

create table *order_items*(

<i>order_code</i>	integer,
<i>product_id</i>	varchar,
<i>quantity</i>	integer CHECK (quantity > 0) NOT NULL,
primary key (<i>order_code</i> , <i>product_id</i>),	
foreign key (<i>order_code</i>) references <i>orders</i> ,	
foreign key (<i>product_id</i>) references <i>products</i>	

);

create table *products*(

<i>ID</i>	varchar PRIMARY KEY,
<i>name</i>	varchar UNIQUE NOT NULL,
<i>description</i>	text,
<i>price</i>	double prcisions CHECK (price > 0) NOT NULL

);

3.

a.

create table *students*(

<i>ID</i>	integer PRIMARY KEY,
<i>full_name</i>	varchar NOT NULL,
<i>age</i>	integer NOT NULL,
<i>birth_date</i>	date NOT NULL,
<i>gender</i>	varchar NOT NULL,
<i>average_grade</i>	double precision NOT NULL,
<i>information</i>	text,
<i>need_f_dorm</i>	boolean NOT NULL,
<i>add_info</i>	text

)

b.

create table *instructors*(

<i>ID</i>	integer PRIMARY KEY,
<i>full_name</i>	varchar NOT NULL,
<i>languages</i>	text,
<i>experience</i>	integer,
<i>remote_lessons</i>	boolean

);

c.

create table *lesson*(

<i>title</i>	varchar PRIMARY KEY,
<i>instructors_ID</i>	integer UNIQUE NOT NULL,
<i>students_ID</i>	integer UNIQUE NOT NULL,
<i>room</i>	integer,
foreign key (<i>instructors_id</i>) references <i>instructors</i> ,	
foreign key (<i>students_id</i>) references <i>students</i>	

);

4.

```
INSERT INTO products (id, name, description, price)  
VALUES('TW17', 'table', 'wood table', '99.9');
```

```
UPDATE customers SET full_name = 'John Doe'  
WHERE id = 17;
```

```
DELETE FROM orders  
WHERE code = 23794923;
```