

```
create database project;
```

```
create table customer(  
    customer_id serial primary key,  
    name varchar(30) not null,  
    country varchar(30) not null,  
    city varchar(30) not null,  
    street varchar(30) not null,  
    phone varchar(20) not null,  
    email varchar(30) not null  
);
```

```
create table shipper(  
    shipper_id serial primary key,  
    name varchar(30) not null,  
    country varchar(30) not null,  
    city varchar(30) not null,  
    street varchar(30) not null,  
    phone varchar(20) not null,  
    email varchar(30) not null  
);
```

```
create table contract(  
    cus_id integer references customer(customer_id),  
    ship_id integer references shipper(shipper_id),  
    contract_details text not null  
);
```

```
create table package(  
    package_id serial primary key,  
    name varchar(30),  
    description text,  
    weight numeric not null ,  
    type varchar(20) not null  
);
```

```
create table shipment(  
    shipment_id serial primary key,  
    description text,  
    type varchar(20) not null,  
    expected_delivery_time date  
);
```

```
create table shipment_details(  
    pack_id integer references package(package_id),  
    shipment_id integer references shipment(shipment_id)
```

```

);

create table delivered_shipment(
    ship_id integer references shipment(shipment_id),
    delivered_time date
);

create table _order(
    order_id serial primary key,
    created_date date not null ,
    created_time time not null,
    payment_type varchar(20) not null,
    is_prepaid boolean not null,
    total numeric not null
);

create table contract_payment(
    order_id integer references _order(order_id),
    account_number integer not null
);

drop table online_payment;
create table online_payment(
    order_id integer references _order(order_id),
    credit_card_number integer not null,
    credit_card_valid date not null,
    credit_card_cvs integer not null
);

create table order_details(
    pack_id integer references package(package_id),
    order_id integer references _order(order_id)
);

create table orders(
    cus_id integer references customer(customer_id),
    order_id integer references _order(order_id)
);

create table sends(
    cus_id integer references customer(customer_id),
    ship_id integer references shipper(shipper_id),
    pack_id integer references package(package_id)
);

drop table datetime cascade ;
create table place(
    place_id serial primary key,
    country varchar(30) not null,

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```

        city varchar(30) not null,
        street varchar(30) not null
    );

create table datetime(
    place_id integer references place(place_id),
    date date not null,
    time time not null
);

create table transport(
    transport_id serial primary key ,
    place_id integer references place(place_id),
    type varchar(20) not null ,
    last_successful_package integer references package(package_id)
);

drop table transport;
create table warehouse(
    warehouse_id serial primary key ,
    place_id integer references place(place_id),
    street varchar(30) not null,
    phone varchar(20) not null
);

create table plane(
    transport_id integer references transport(transport_id),
    flight_number integer not null
);

create table truck(
    transport_id integer references transport(transport_id),
    license_number integer not null,
    is_crashed boolean not null
);

create table has_gone_through(
    pack_id integer references package(package_id),
    place_id integer references place(place_id)
);

create table current_location(
    pack_id integer references package(package_id),
    place_id integer references place(place_id)
);

insert into customer(name, country, city, street, phone, email) values
('Anna', 'Kazakhstan', 'Almaty', 'Tole-Bi', '12345', 'anna@mail.me');

```

```

insert into customer(name, country, city, street, phone, email) values
('Elena', 'Kazakhstan', 'Almaty', 'Tole-Bi', '12346', 'elena@mail.me');
insert into customer(name, country, city, street, phone, email) values
('Caroline', 'Kazakhstan', 'Almaty', 'Abay', '32533', 'caroline@mail.me');
insert into customer(name, country, city, street, phone, email) values
('Rebecca', 'Kazakhstan', 'Shymkent', 'Konaeva', '32434',
'rebecca@mail.me');
insert into customer(name, country, city, street, phone, email) values
('Jenna', 'Kazakhstan', 'Semei', 'Astana', '24131', 'jenna@mail.me');
insert into customer(name, country, city, street, phone, email) values
('Bob', 'Kazakhstan', 'Pavlodar', 'Lenin', '34567', 'bob@mail.me');
insert into customer(name, country, city, street, phone, email) values
('Conor', 'Kazakhstan', 'Kostanai', 'Mametova', '45678', 'conor@mail.me');
insert into customer(name, country, city, street, phone, email) values
('Joe', 'Kazakhstan', 'Aktobe', 'Ryskulova', '56789', 'joe@mail.me');
insert into customer(name, country, city, street, phone, email) values
('Patric', 'Kazakhstan', 'Nursultan', 'Tolstogo', '67890',
'patric@mail.me');
insert into customer(name, country, city, street, phone, email) values
('Jane', 'Kazakhstan', 'Karagandy', 'Djandosova', '09876',
'jane@mail.me');
insert into customer(name, country, city, street, phone, email) values
('Mary', 'Russia', 'Moscow', 'Main', '78900', 'mary@mail.me');

```

```

insert into shipper(name, country, city, street, phone, email) values ('De
Facto', 'Kazakhstan', 'Almaty', 'Ruzibakieva', '100', 'defacto@mail.me');
insert into shipper(name, country, city, street, phone, email) values
('Mobilka', 'Kazakhstan', 'Almaty', 'Tole-Bi', '200', 'mobilka@mail.me');
insert into shipper(name, country, city, street, phone, email) values
('Lamoda', 'Kazakhstan', 'Shymkent', 'Zheltoksan', '300',
'lamoda@mail.me');
insert into shipper(name, country, city, street, phone, email) values
('Magnum', 'Kazakhstan', 'Almaty', 'Abay', '400', 'magnum@mail.me');
insert into shipper(name, country, city, street, phone, email) values
('Tech', 'Kazakhstan', 'Nursultan', 'Shakarim', '500', 'tech@mail.me');

```

```

insert into contract(cus_id, ship_id, contract_details) values(1, 2,
'monthly payment');
insert into contract(cus_id, ship_id, contract_details) values(1, 3,
'monthly payment');
insert into contract(cus_id, ship_id, contract_details) values(2, 3,
'monthly payment');
insert into contract(cus_id, ship_id, contract_details) values(2, 4,
'monthly payment');

```

```

select *
from place;

```

```

show datestyle ;
set datestyle to 'DMY';

```

```

insert into place (place_id, country, city, street) values (1,
'Kazakhstan', 'Almaty', 'Street1');
insert into place (place_id, country, city, street) values (2,
'Kazakhstan', 'Almaty', 'Street2');
insert into place (place_id, country, city, street) values (3,
'Kazakhstan', 'Almaty', 'Tole-Bi'); -- done , '10/06/2021', '10:00'
insert into place (place_id, country, city, street) values (4,
'Kazakhstan', 'Kostanai', 'Mametova'); -- done but late , '17/06/2021',
'10:00'
insert into place (place_id, country, city, street) values (5,
'Kazakhstan', 'Semei', 's_street1');
insert into place (place_id, country, city, street) values (6,
'Kazakhstan', 'Almaty', 'Street3');
insert into place (place_id, country, city, street) values (7,
'Kazakhstan', 'Aktobe', 'a_street1');
insert into place (place_id, country, city, street) values (8,
'Kazakhstan', 'Almaty', 'Street4');
insert into place (place_id, country, city, street) values (9, 'Russia',
'Moscow', 'air_street');
insert into place (place_id, country, city, street) values (10,
'Kazakhstan', 'Almaty', 'Street5');
insert into place (place_id, country, city, street) values (11,
'Kazakhstan', 'Shymkent', 'sh_street');
insert into place (place_id, country, city, street) values (12,
'Kazakhstan', 'Karagandy', 'kar_street');
insert into place (place_id, country, city, street) values (13,
'Kazakhstan', 'Merke', 'm_street');
insert into place (place_id, country, city, street) values (14,
'Kazakhstan', 'Taraz', 't_street');
insert into place (place_id, country, city, street) values (15,
'Kazakhstan', 'Almaty', 'Street10');
insert into place (place_id, country, city, street) values (16,
'Kazakhstan', 'Nursultan', 'n_street1');
insert into place (place_id, country, city, street) values (17,
'Kazakhstan', 'Pavlodar', 'p_street1');
insert into place (place_id, country, city, street) values (18,
'Kazakhstan', 'Aktau', 'ak_street1');
insert into place (place_id, country, city, street) values (19,
'Kazakhstan', 'Oral', 'o_street1');
insert into place (place_id, country, city, street) values (20,
'Kazakhstan', 'Almaty', 'Street9');

insert into warehouse (place_id, street, phone) values(13, 'm_street',
'1111');
insert into warehouse (place_id, street, phone) values(14, 't_street',
'4444');
insert into warehouse (place_id, street, phone) values(15, 'Street10',
'5555');

```

```
truncate table truck;
```

```
select * from transport, truck  
where is_crashed=true and truck.transport_id=transport.transport_id;
```

```
insert into transport (place_id, type, last_successful_package) values(9,  
'plane', null);  
insert into transport (place_id, type, last_successful_package) values(1,  
'truck', 1);  
insert into transport (place_id, type, last_successful_package) values(2,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(3,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(4,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(5,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(6,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(7,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(8,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(10,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(11,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(12,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(16,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(17,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(18,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(19,  
'truck', null);  
insert into transport (place_id, type, last_successful_package) values(20,  
'truck', null);
```

```
insert into plane (transport_id, flight_number) values (1, 7508);
```

```
insert into truck (transport_id, license_number, is_crashed) values(2,  
1721, true);  
insert into truck (transport_id, license_number, is_crashed) values(3,  
1721, true);  
insert into truck (transport_id, license_number, is_crashed) values(7,  
1721, true);  
insert into truck (transport_id, license_number, is_crashed) values(16,  
1721, true);
```

```
insert into truck (transport_id, license_number, is_crashed) values(4,
1432, false);
insert into truck (transport_id, license_number, is_crashed) values(5,
1432, false);
insert into truck (transport_id, license_number, is_crashed) values(6,
1617, false);
insert into truck (transport_id, license_number, is_crashed) values(17,
1617, false);
insert into truck (transport_id, license_number, is_crashed) values(8,
1901, false);
insert into truck (transport_id, license_number, is_crashed) values(9,
1451, false);
insert into truck (transport_id, license_number, is_crashed) values(10,
1701, false);
insert into truck (transport_id, license_number, is_crashed) values(11,
1801, false);
insert into truck (transport_id, license_number, is_crashed) values(12,
1222, false);
insert into truck (transport_id, license_number, is_crashed) values(13,
1432, false);
insert into truck (transport_id, license_number, is_crashed) values(14,
1444, false);
insert into truck (transport_id, license_number, is_crashed) values(15,
1555, false);
```

```
insert into datetime (place_id, date, time) values (1, '05/11/2021',
'10:00'); -- done
insert into datetime (place_id, date, time) values (6, '11/11/2021',
'10:00'); -- done but late
```

```
insert into datetime (place_id, date, time) values (9, '12/11/2021',
'9:30'); -- international
insert into datetime (place_id, date, time) values (1, '10/11/2021',
'9:30');
```

```
select * from datetime;
truncate table current_location;
-- current...
insert into datetime (place_id, date, time) values (2, '05/11/2021',
'10:00');
insert into datetime (place_id, date, time) values (3, '06/11/2021',
'10:00');
insert into datetime (place_id, date, time) values (4, '07/11/2021',
'10:00');
insert into datetime (place_id, date, time) values (5, '08/11/2021',
'13:00');
insert into datetime (place_id, date, time) values (7, '10/11/2021',
'14:00');
insert into datetime (place_id, date, time) values (8, '11/11/2021',
'15:00');
```

```
insert into datetime (place_id, date, time) values (10, '13/11/2021',
'16:00');
insert into datetime (place_id, date, time) values (11, '14/11/2021',
'17:00');
insert into datetime (place_id, date, time) values (12, '15/11/2021',
'18:00');
insert into datetime (place_id, date, time) values (13, '16/11/2021',
'19:00');
insert into datetime (place_id, date, time) values (14, '17/11/2021',
'20:00');
insert into datetime (place_id, date, time) values (15, '18/11/2021',
'21:00');
insert into datetime (place_id, date, time) values (16, '19/11/2021',
'22:00');
insert into datetime (place_id, date, time) values (17, '20/11/2021',
'07:00');
insert into datetime (place_id, date, time) values (18, '21/11/2021',
'08:00');
insert into datetime (place_id, date, time) values (19, '22/11/2021',
'09:00');
insert into datetime (place_id, date, time) values (20, '23/11/2021',
'10:00');
```

-- gone through

```
insert into datetime (place_id, date, time) values (1, '03/11/2021',
'06:00');
insert into datetime (place_id, date, time) values (2, '04/11/2021',
'07:00');
insert into datetime (place_id, date, time) values (3, '05/11/2021',
'08:00');
insert into datetime (place_id, date, time) values (4, '06/11/2021',
'09:00');
insert into datetime (place_id, date, time) values (5, '07/11/2021',
'11:00');
insert into datetime (place_id, date, time) values (6, '08/11/2021',
'12:00');
insert into datetime (place_id, date, time) values (7, '09/11/2021',
'13:00');
insert into datetime (place_id, date, time) values (8, '10/11/2021',
'14:00');
insert into datetime (place_id, date, time) values (9, '11/11/2021',
'15:00');
insert into datetime (place_id, date, time) values (10, '12/11/2021',
'16:00');
insert into datetime (place_id, date, time) values (11, '13/11/2021',
'17:00');
insert into datetime (place_id, date, time) values (12, '14/11/2021',
'18:00');
insert into datetime (place_id, date, time) values (13, '15/11/2021',
'19:00');
```



```
insert into datetime (place_id, date, time) values (14, '16/11/2021',  
'20:00');  
insert into datetime (place_id, date, time) values (15, '17/11/2021',  
'21:00');  
insert into datetime (place_id, date, time) values (16, '18/11/2021',  
'22:00');  
insert into datetime (place_id, date, time) values (17, '19/11/2021',  
'23:00');  
insert into datetime (place_id, date, time) values (18, '20/11/2021',  
'08:00');  
insert into datetime (place_id, date, time) values (19, '21/11/2021',  
'05:00');  
insert into datetime (place_id, date, time) values (20, '22/11/2021',  
'06:00');
```

```
insert into current_location (pack_id, place_id) values (2, 2);  
insert into current_location (pack_id, place_id) values (3, 3);  
insert into current_location (pack_id, place_id) values (4, 4);  
insert into current_location (pack_id, place_id) values (5, 5);  
insert into current_location (pack_id, place_id) values (7, 7);  
insert into current_location (pack_id, place_id) values (8, 8);  
insert into current_location (pack_id, place_id) values (9, 9);  
insert into current_location (pack_id, place_id) values (10, 10);  
insert into current_location (pack_id, place_id) values (11, 11);  
insert into current_location (pack_id, place_id) values (12, 12);  
insert into current_location (pack_id, place_id) values (13, 13);  
insert into current_location (pack_id, place_id) values (14, 14);  
insert into current_location (pack_id, place_id) values (15, 15);  
insert into current_location (pack_id, place_id) values (16, 16);  
insert into current_location (pack_id, place_id) values (17, 17);  
insert into current_location (pack_id, place_id) values (18, 18);  
insert into current_location (pack_id, place_id) values (19, 19);  
insert into current_location (pack_id, place_id) values (20, 20);
```

```
insert into has_gone_through (pack_id, place_id) values (1, 1);  
insert into has_gone_through (pack_id, place_id) values (2, 2);  
insert into has_gone_through (pack_id, place_id) values (3, 3);  
insert into has_gone_through (pack_id, place_id) values (4, 4);  
insert into has_gone_through (pack_id, place_id) values (5, 5);  
insert into has_gone_through (pack_id, place_id) values (6, 6);  
insert into has_gone_through (pack_id, place_id) values (7, 7);  
insert into has_gone_through (pack_id, place_id) values (8, 8);  
insert into has_gone_through (pack_id, place_id) values (9, 9);  
insert into has_gone_through (pack_id, place_id) values (10, 10);  
insert into has_gone_through (pack_id, place_id) values (11, 11);  
insert into has_gone_through (pack_id, place_id) values (12, 12);  
insert into has_gone_through (pack_id, place_id) values (13, 13);  
insert into has_gone_through (pack_id, place_id) values (14, 14);  
insert into has_gone_through (pack_id, place_id) values (15, 15);  
insert into has_gone_through (pack_id, place_id) values (16, 16);
```

```
insert into has_gone_through (pack_id, place_id) values (17, 17);
insert into has_gone_through (pack_id, place_id) values (18, 18);
insert into has_gone_through (pack_id, place_id) values (19, 19);
insert into has_gone_through (pack_id, place_id) values (20, 20);
```

```
select * from orders;
```

```
insert into orders(cus_id, order_id) values(1, 1);
insert into orders(cus_id, order_id) values(8, 2);
insert into orders(cus_id, order_id) values(10, 3);
insert into orders(cus_id, order_id) values(9, 4);
insert into orders(cus_id, order_id) values(3, 5);
insert into orders(cus_id, order_id) values(7, 6);
insert into orders(cus_id, order_id) values(1, 7);
insert into orders(cus_id, order_id) values(2, 8);
insert into orders(cus_id, order_id) values(11, 9);
insert into orders(cus_id, order_id) values(10, 10);
insert into orders(cus_id, order_id) values(9, 11);
insert into orders(cus_id, order_id) values(8, 12);
insert into orders(cus_id, order_id) values(7, 13);
insert into orders(cus_id, order_id) values(6, 14);
insert into orders(cus_id, order_id) values(5, 15);
insert into orders(cus_id, order_id) values(2, 16);
insert into orders(cus_id, order_id) values(4, 17);
insert into orders(cus_id, order_id) values(3, 18);
insert into orders(cus_id, order_id) values(3, 19);
insert into orders(cus_id, order_id) values(1, 20);
```

```
insert into sends(cus_id, ship_id, pack_id) values (1, 2, 1);
insert into sends(cus_id, ship_id, pack_id) values (8, 5, 2);
insert into sends(cus_id, ship_id, pack_id) values (10, 1, 3);
insert into sends(cus_id, ship_id, pack_id) values (9, 4, 4);
insert into sends(cus_id, ship_id, pack_id) values (3, 5, 5);
insert into sends(cus_id, ship_id, pack_id) values (7, 4, 6);
insert into sends(cus_id, ship_id, pack_id) values (1, 3, 7);
insert into sends(cus_id, ship_id, pack_id) values (2, 3, 8);
insert into sends(cus_id, ship_id, pack_id) values (11, 1, 9);
insert into sends(cus_id, ship_id, pack_id) values (10, 3, 10);
insert into sends(cus_id, ship_id, pack_id) values (9, 5, 11);
insert into sends(cus_id, ship_id, pack_id) values (8, 2, 12);
insert into sends(cus_id, ship_id, pack_id) values (7, 4, 13);
insert into sends(cus_id, ship_id, pack_id) values (6, 4, 14);
insert into sends(cus_id, ship_id, pack_id) values (5, 5, 15);
insert into sends(cus_id, ship_id, pack_id) values (2, 4, 16);
insert into sends(cus_id, ship_id, pack_id) values (4, 5, 17);
insert into sends(cus_id, ship_id, pack_id) values (3, 1, 18);
insert into sends(cus_id, ship_id, pack_id) values (3, 2, 19);
insert into sends(cus_id, ship_id, pack_id) values (1, 3, 20);
```

```
truncate table _order cascade ;
```

```
select * from online_payment;
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (1, '01/11/2021', '13:45', 'contract', false,
580);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (2, '02/11/2021', '22:54', 'credit card', false,
803);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (3, '03/11/2021', '19:24', 'credit card', false,
579);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (4, '04/11/2021', '14:48', 'credit card', false,
1180);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (5, '05/11/2021', '20:36', 'credit card', false,
320);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (6, '06/11/2021', '22:27', 'credit card', false,
26);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (7, '07/11/2021', '4:08', 'contract', true,
1619);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (8, '08/11/2021', '1:24', 'contract', false,
235);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (9, '09/10/2021', '6:26', 'credit card', false,
1642);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (10, '10/11/2021', '0:18', 'credit card', false,
1457);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (11, '11/11/2021', '7:56', 'credit card', false,
1276);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (12, '12/11/2021', '3:51', 'credit card', false,
144);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (13, '13/11/2021', '6:56', 'credit card', false,
851);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (14, '14/11/2021', '22:55', 'credit card', true,
1921);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (15, '15/11/2021', '14:40', 'credit card',
false, 508);
insert into _order (order_id, created_date, created_time, payment_type,
is_prepaid, total) values (16, '16/11/2021', '23:43', 'contract', false,
1178);
insert into _order (order_id, created_date, created_time, payment_type,
```

```
is_prepaid, total) values (17, '17/11/2021', '15:22', 'credit card',  
false, 1426);  
insert into _order (order_id, created_date, created_time, payment_type,  
is_prepaid, total) values (18, '18/11/2021', '13:11', 'credit card',  
false, 856);  
insert into _order (order_id, created_date, created_time, payment_type,  
is_prepaid, total) values (19, '19/11/2021', '22:06', 'credit card',  
false, 335);  
insert into _order (order_id, created_date, created_time, payment_type,  
is_prepaid, total) values (20, '20/11/2021', '18:48', 'credit card',  
false, 1837);
```

```
select date_part('minute', created_time) from _order;
```

```
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (15, 69170941, '02/02/2023',  
290);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (3, 37629424, '01/03/2022',  
241);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (8, 52273749, '18/01/2024',  
724);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (2, 33687817, '07/11/2023',  
329);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (11, 64975227, '25/03/2023',  
126);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (16, 39180794, '30/01/2024',  
127);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (20, 28655176, '13/05/2023',  
627);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (14, 65009336, '22/12/2022',  
533);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (18, 84284405, '03/03/2022',  
503);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (19, 83067735, '22/08/2022',  
358);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (12, 46666313, '29/04/2023',  
503);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (1, 87329851, '29/01/2023',  
829);
```

```
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (17, 34967147, '10/01/2023',  
203);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (10, 90106692, '09/07/2023',  
128);  
insert into online_payment (order_id, credit_card_number,  
credit_card_valid, credit_card_cvs) values (9, 61283869, '01/04/2023',  
530);
```

```
insert into contract_payment (order_id, account_number) values (4,  
3048900);  
insert into contract_payment (order_id, account_number) values (5,  
8976111);  
insert into contract_payment (order_id, account_number) values (6,  
9307894);  
insert into contract_payment (order_id, account_number) values (7,  
4798267);  
insert into contract_payment (order_id, account_number) values (13,  
6580031);
```

```
insert into package (package_id, name, description, weight, type) values  
(1, 'iPhone 11', '256GB Black', 1.0, 'small box');  
insert into package (package_id, name, description, weight, type) values  
(2, 'TV', 'UHD', 7.8, 'large box');  
insert into package (package_id, name, description, weight, type) values  
(3, 'Jeans', 'Gucci', 0.5, 'small box');  
insert into package (package_id, name, description, weight, type) values  
(4, 'Foods', 'Danger: with Knife', 3.5, 'small box');  
insert into package (package_id, name, description, weight, type) values  
(5, 'MacBook', '2021', 2.6, 'large box');  
insert into package (package_id, name, description, weight, type) values  
(6, 'Wine', '1967s', 1.2, 'small box');  
insert into package (package_id, name, description, weight, type) values  
(7, 'Jacket', 'Brand New', 2.3, 'small box');  
insert into package (package_id, name, description, weight, type) values  
(8, 'Sweater', 'Adidas', 1.9, 'small box');  
insert into package (package_id, name, description, weight, type) values  
(9, 'T-Shirts', 'Nike', 2.4, 'small box');  
insert into package (package_id, name, description, weight, type) values  
(10, 'Hat', 'Classic', 0.6, 'small box');  
insert into package (package_id, name, description, weight, type) values  
(11, 'Data Center', 'Cisco', 19.8, 'large box');  
insert into package (package_id, name, description, weight, type) values  
(12, 'Samsung S21', 'Blue', 1.6, 'small box');  
insert into package (package_id, name, description, weight, type) values  
(13, 'Food Box', 'Super Combo', 5.3, 'large box');  
insert into package (package_id, name, description, weight, type) values  
(14, 'Sneakers', 'Puma', 2.0, 'large box');  
insert into package (package_id, name, description, weight, type) values
```

```

(15, 'Lenovo Yoga 7', 'Red', 2.9, 'large box');
insert into package (package_id, name, description, weight, type) values
(16, 'Meal Box', 'Fresh', 2.8, 'large box');
insert into package (package_id, name, description, weight, type) values
(17, 'Camera', 'Sony', 1.4, 'small box');
insert into package (package_id, name, description, weight, type) values
(18, 'Dress', 'North Face', 1.5, 'large box');
insert into package (package_id, name, description, weight, type) values
(19, 'Xiaomi Mi 11', 'Ultra', 1.4, 'small box');
insert into package (package_id, name, description, weight, type) values
(20, 'Coats', 'Classic', 2.4, 'large box');

truncate table shipment cascade ;
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (1, 'package 20', 'typical', '24/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (2, 'package 19', 'typical', '23/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (3, 'package 18', 'typical', '22/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (4, 'package 17', 'typical', '21/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (5, 'package 16', 'typical', '20/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (6, 'package 15', 'typical', '19/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (7, 'package 14', 'typical', '18/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (8, 'package 13', 'typical', '17/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (9, 'package 12', 'typical', '16/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (10, 'package 11', 'typical',
'15/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (11, 'package 10', 'typical',
'14/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (12, 'package 9', 'international',
'13/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (13, 'package 8', 'typical', '12/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (14, 'package 7', 'typical', '11/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (15, 'package 6', 'typical', '10/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (16, 'package 5', 'typical', '09/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (17, 'package 4', 'hazardous',

```



```
'08/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (18, 'package 3', 'typical', '07/1/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (19, 'package 2', 'typical', '06/11/2021');
insert into shipment (shipment_id, description, type,
expected_delivery_time) values (20, 'package 1', 'typical', '05/11/2021');

insert into delivered_shipment (ship_id, delivered_time) values (20,
'11/11/2021');
insert into delivered_shipment (ship_id, delivered_time) values (15,
'05/11/2021');
```

```
insert into order_details(pack_id, order_id) values (1, 1);
insert into order_details(pack_id, order_id) values (2, 2);
insert into order_details(pack_id, order_id) values (3, 3);
insert into order_details(pack_id, order_id) values (4, 4);
insert into order_details(pack_id, order_id) values (5, 5);
insert into order_details(pack_id, order_id) values (6, 6);
insert into order_details(pack_id, order_id) values (7, 7);
insert into order_details(pack_id, order_id) values (8, 8);
insert into order_details(pack_id, order_id) values (9, 9);
insert into order_details(pack_id, order_id) values (10, 10);
insert into order_details(pack_id, order_id) values (11, 11);
insert into order_details(pack_id, order_id) values (12, 12);
insert into order_details(pack_id, order_id) values (13, 13);
insert into order_details(pack_id, order_id) values (14, 14);
insert into order_details(pack_id, order_id) values (15, 15);
insert into order_details(pack_id, order_id) values (16, 16);
insert into order_details(pack_id, order_id) values (17, 17);
insert into order_details(pack_id, order_id) values (18, 18);
insert into order_details(pack_id, order_id) values (19, 19);
insert into order_details(pack_id, order_id) values (20, 20);
```

```
insert into shipment_details(pack_id, shipment_id) values(1, 20);
insert into shipment_details(pack_id, shipment_id) values(2, 19);
insert into shipment_details(pack_id, shipment_id) values(3, 18);
insert into shipment_details(pack_id, shipment_id) values(4, 17);
insert into shipment_details(pack_id, shipment_id) values(5, 16);
insert into shipment_details(pack_id, shipment_id) values(6, 15);
insert into shipment_details(pack_id, shipment_id) values(7, 14);
insert into shipment_details(pack_id, shipment_id) values(8, 13);
insert into shipment_details(pack_id, shipment_id) values(9, 12);
insert into shipment_details(pack_id, shipment_id) values(10, 11);
insert into shipment_details(pack_id, shipment_id) values(11, 10);
insert into shipment_details(pack_id, shipment_id) values(12, 9);
insert into shipment_details(pack_id, shipment_id) values(13, 8);
insert into shipment_details(pack_id, shipment_id) values(14, 7);
insert into shipment_details(pack_id, shipment_id) values(15, 6);
insert into shipment_details(pack_id, shipment_id) values(16, 5);
```

```
insert into shipment_details(pack_id, shipment_id) values(17, 4);
insert into shipment_details(pack_id, shipment_id) values(18, 3);
insert into shipment_details(pack_id, shipment_id) values(19, 2);
insert into shipment_details(pack_id, shipment_id) values(20, 1);
```

-- queries

-- 1 Assume truck 1721 is destroyed in a crash. Find all customers who had a package on that truck at the time of the crash. Find all recipients who had a package on that truck at the time of the crash. Find the last successful delivery by that truck prior to the crash.

```
select customer.name, package.name, package.type from transport, truck,
place, current_location, package, sends, customer
where license_number=1721 and truck.transport_id=transport.transport_id
    and place.place_id=current_location.place_id and
current_location.pack_id=package.package_id
    and transport.place_id=place.place_id and customer_id=cus_id
    and sends.pack_id=package.package_id;
```

```
select package.name, package_id from package, transport, truck
where license_number=1721 and truck.transport_id=transport.transport_id
    and package_id=transport.last_successful_package;
```

-- 2 Find the customer who has shipped the most packages in the past year.

```
create view order_count as
    select customer_id, name, count(_order.order_id) as cnt from customer,
orders, _order
    where orders.cus_id = customer.customer_id and orders.order_id =
_order.order_id
    group by customer_id, name;
```

```
select customer_id, name, cnt from
order_count as cs, _order, orders
where cnt = (select max(cnt) from order_count as cins) and
customer_id=orders.cus_id and _order.order_id = orders.order_id and
date_part('year', created_date) = 2021
group by customer_id, name, cnt;
;
```

-- 3 Find the customer who has spent the most money on shipping in the past year.

```
create view total_sum as
    select customer_id, name, sum(total) as s from customer, orders,
_order
    where orders.cus_id = customer.customer_id and orders.order_id =
_order.order_id
```



```

    group by customer_id, name;

select customer_id, name, s from
total_sum as sc, _order, orders
where s = (select max(s) from total_sum as cins) and
customer_id=orders.cus_id and _order.order_id = orders.order_id and
date_part('year', created_date) = 2021
group by customer_id, name, s;

--4 Find the street with the most customers.
select * from (select street, count(customer_id) as cnt
               from customer
               group by street) as cs
               where cnt=(select max(cnt) from (select street,
count(customer_id) as cnt
                                           from customer
                                           group by street) as sc)
order by cnt desc
;

--5 Find those packages that were not delivered within the promised time
select name, shipment.shipment_id from shipment, delivered_shipment,
shipment_details, package
where (date_part('day', expected_delivery_time) > date_part('day',
delivered_time) or
      date_part('month', expected_delivery_time) > date_part('month',
delivered_time))
and shipment.shipment_id=delivered_shipment.ship_id
and package_id=shipment_details.pack_id
and shipment.shipment_id=shipment_details.shipment_id;

--1
select customer_id, name, city, street, sum(total) as total from customer,
orders, _order
where orders.cus_id = customer.customer_id and orders.order_id =
_order.order_id
and date_part('month', created_date)=extract(month from current_date)
group by customer_id, name, city, street;

--3
select customer_id, cn, package_id, pn, total, created_date from
(select customer_id, customer.name as cn, package_id, package.name as pn
from customer, sends, package
where customer_id=sends.cus_id and package_id=sends.pack_id) as cs,
order_details, _order
where package_id=pack_id and _order.order_id=order_details.order_id;

```