Bissenova Anara / 20BD / Lab 6

```sql
create table dealer (
    id integer primary key ,
    name varchar(255),
    location varchar(255),
    charge float
);

INSERT INTO dealer (id, name, location, charge) VALUES (101, 'Ерлан', 'Алматы', 0.15);
INSERT INTO dealer (id, name, location, charge) VALUES (102, 'Жасмин', 'Караганда', 0.13);
INSERT INTO dealer (id, name, location, charge) VALUES (105, 'Азамат', 'Нур-Султан', 0.11);
INSERT INTO dealer (id, name, location, charge) VALUES (106, 'Канат', 'Караганда', 0.14);
INSERT INTO dealer (id, name, location, charge) VALUES (107, 'Евгений', 'Атырау', 0.13);
INSERT INTO dealer (id, name, location, charge) VALUES (103, 'Жулдыз', 'Актобе', 0.12);

create table client (
    id integer primary key ,
    name varchar(255),
    city varchar(255),
    priority integer,
    dealer_id integer references dealer(id)
);

INSERT INTO client (id, name, city, priority, dealer_id) VALUES (802, 'Айша', 'Алматы', 100, 101);
INSERT INTO client (id, name, city, priority, dealer_id) VALUES (807, 'Даулет', 'Алматы', 200, 101);
INSERT INTO client (id, name, city, priority, dealer_id) VALUES (805, 'Али', 'Кокшетау', 200, 102);
INSERT INTO client (id, name, city, priority, dealer_id) VALUES (808, 'Ильяс', 'Нур-Султан', 300, 102);
INSERT INTO client (id, name, city, priority, dealer_id) VALUES (804, 'Алия', 'Караганда', 300, 106);
INSERT INTO client (id, name, city, priority, dealer_id) VALUES (809, 'Саша', 'Шымкент', 100, 103);
INSERT INTO client (id, name, city, priority, dealer_id) VALUES (803, 'Маша', 'Семей', 200, 107);
INSERT INTO client (id, name, city, priority, dealer_id) VALUES (801, 'Максат', 'Нур-Султан', null, 105);

create table sell (
    id integer primary key,
    amount float,
    date timestamp,
    client_id integer references client(id),
    dealer_id integer references dealer(id)
);
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```sql
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (201, 150.5, '2012-10-05 00:00:00.000000', 805, 102);
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (209, 270.65, '2012-09-10 00:00:00.000000', 801, 105);
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (202, 65.26, '2012-10-05 00:00:00.000000', 802, 101);
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (204, 110.5, '2012-08-17 00:00:00.000000', 809, 103);
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (207, 948.5, '2012-09-10 00:00:00.000000', 805, 102);
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (205, 2400.6, '2012-07-27 00:00:00.000000', 807, 101);
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (208, 5760, '2012-09-10 00:00:00.000000', 802, 101);
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (210, 1983.43, '2012-10-10 00:00:00.000000', 804, 106);
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (203, 2480.4, '2012-10-10 00:00:00.000000', 809, 103);
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (212, 250.45, '2012-06-27 00:00:00.000000', 808, 102);
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (211, 75.29, '2012-08-17 00:00:00.000000', 803, 107);
INSERT INTO sell (id, amount, date, client_id, dealer_id) VALUES (213, 3045.6, '2012-04-25 00:00:00.000000', 802, 101);

-- drop table client;
-- drop table dealer;
-- drop table sell;

"TASK1.Write a SQL query using Joins:
a. combine each row of dealer table with each row of client table
b. find all dealers along with client name, city, grade, sell number, date, and amount
c. find the dealer and client who belongs to same city
d. find sell id, amount, client name, city those sells where sell amount exists between
100 and 500
e. find dealers who works either for one or more client or not yet join under any of
the clients
f. find the dealers and the clients he service, return client name, city, dealer name,
commission.
g. find client name, client city, dealer, commission those dealers who received a
commission from the sell more than 12%
h. make a report with client name, city, sell id, sell date, sell amount, dealer name
and commission to find that either any of the existing clients haven't made a
purchase(sell) or made one or more purchase(sell) by their dealer or by own.
i. find dealers who either work for one or more clients. The client may have made,
either one or more purchases, or purchase amount above 2000 and must have a
grade, or he may not have made any purchase to the associated dealer. Print
client name, client grade, dealer name, sell id, sell amount"

select *
from dealer cross join  client;

with tb as (select *
from dealer  inner join sell on (dealer.id = sell.dealer_id))
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```sql
select *
from tb inner join client on client_id = client.id;

select *
from dealer inner join client on (location = city);

select s.id, amount, name, city
from client inner join sell s on client.id = s.client_id where amount between 100 and 500;

select dealer.name, count(dealer.name)
from dealer right outer join client on (dealer.id = client.dealer_id) group by dealer.name
having count(dealer.name) >= 0;

select dealer.name, client.name, city, charge
from dealer inner join client on (dealer.id = client.dealer_id);

select dealer.name, client.name, city, charge
from dealer inner join client on (dealer.id = client.dealer_id) where charge > 0.12;

with ds as (select d.name as dname, s.id as sid, amount, date, charge, s.client_id as cid
from sell s inner join dealer d on d.id = s.dealer_id)
select name, city, sid, date, amount, dname, charge
from ds right outer join client c on (c.id = cid);

with ds as ( select client.name as cname, priority, count(client.name) as cnt, sum(amount) as total, client.dealer_id as
did
    from client inner join sell on (client.id = sell.client_id) group by (client.name, priority, client.dealer_id))
select cname, priority, cnt, total, dealer.name
    from ds inner join dealer on (dealer.id = ds.did)
    where cnt >=1 or (priority > 0 and total > 2000);


"TASK2. Create following views:
a. count the number of unique clients, compute average and total purchase
amount of client orders by each date.
b. find top 5 dates with the greatest total sell amount
c. count the number of sales, compute average and total amount of all
sales of each dealer
d. compute how much all dealers earned from charge(total sell amount *
charge) in each location
e. compute number of sales, average and total amount of all sales dealers
made in each location
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f. compute number of sales, average and total amount of expenses in
each city clients made.
g. find cities where total expenses more than total amount of sales in
locations"

create view day_sale as
    select date, count(c.id) as count, avg(amount), sum(amount)
    from sell inner join client c on sell.client_id = c.id group by date;
select * from day_sale;

create view top_date_sale as
    select date, count(c.id) as count, avg(amount), sum(amount) as total
    from sell inner join client c on sell.client_id = c.id group by date order by total desc limit 5;
select * from top_date_sale;

create view dealer_sale as
    select dealer.name, count(sell.id), avg(amount), sum(amount)
    from dealer inner join sell on dealer.id = sell.dealer_id group by dealer.name;
select * from dealer_sale;

create view earned_in_loc as
    select dealer.location, sum(amount), sum(amount)*dealer.charge as earned
    from dealer inner join sell s on dealer.id = s.dealer_id group by dealer.location, charge;
select * from earned_in_loc;

create view sales_in_loc as
    select dealer.location, count(sell.id), avg(amount), sum(amount)
    from dealer inner join sell on dealer.id = sell.dealer_id group by dealer.location;
select * from sales_in_loc;

create view sales_in_city as
    select client.city, count(sell.id), avg(amount), sum(amount)
    from client inner join sell on client.id = sell.client_id group by client.city;
select * from sales_in_city;
```