**SQL CODING TEST ANSWERS**

**CAR RENTAL SYSTEM**

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1. create database car;
2. use database car;
3. create table vehicle (vehicleID int primary key,make varchar(50),model varchar(20),year int,dailyrate decimal(10,2),status varchar(20),passengercapacity int,engineercapacity int);
4. create table customer(customerid int primary key,firstname varchar(50),lastname varchar(50),email varchar(100),phonenumber varchar(20));
5. create table lease(leaseid int primary key,vehicleid int,customerid int,startdate date,enddate date,type varchar(20),foreign key (vehicleid) references vehicle(vehicleid),foreign key(customerid)references customer(customerid));
6. create table payment(paymentid int primary key,leaseid int primary key,leaseid int ,paymentdate date,foreign key(leaseid) references lease(leaseid));

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Vehicle Table

insert into vehicle values(1,'toyota','camry',2022,50.00,1,4,1450);

insert into vehicle values(2,'honda','civic',2023,45.00,1,7,1500);

insert into vehicle values(3,'ford','focus',2022,48.00,0,4,1400);

insert into vehicle values(4,'nissan','altima',2023,52.00,1,7,1200);

insert into vehicle values(5,'chevrolet','malibu',2022,47.00,1,4,1800);

insert into vehicle values(6,'hyundai','sonata’,2022,49.00,0,7,1400);

insert into vehicle values(7,'bmw’,'3 series',2022,60.00,1,7,2499);

insert into vehicle values(8,'mercedes','C-Class',2022,55.00,1,8,2599);

insert into vehicle values(9,'audi','A4',2022,55.00,0,4,2599);

insert into vehicle values(10,'lexus','ES',2023,54.00,1,4,2500);

Customer table  
insert into customer values(1,'john','doe', 'johndoe@example.com', '555-555-5555 ');

insert into customer values(2,'jane','Smith', ' janesmith@example.com ', '555-123-4567 ');

insert into customer values(3,' Robert',' Johnson ', 'robert@example.com', ' 555-789-1234 ');

insert into customer values(4,' Sarah',' Brown', 'sarah@example.com', '555-789-123 ');

insert into customer values(5,'David','lee', 'david@example.com', ' 555 -987-6543 ');

insert into customer values(6,'Laura,'Hall', 'laura@example.com', '555-234-5678 ');

insert into customer values(7,'Michael’,'Davis', 'michael@example.com', ' 555-876-5432 ');

insert into customer values(8,'Emma','Wilson', 'emma@example.com', ' 555-432-1098 ');

insert into customer values(9,'William','Taylor', william@example.com', ' 555-321-6547 ');

insert into customer values(10,'Olivia','Adams' ,'olivia@example.com','555-765-432 ');

table lease

insert into lease values(1,1,1,'2023-01-01', '2023-01-05', 'daily');

insert into lease values(2,2,2,'2023-02-15', '2023-02-28', 'monthly');

insert into lease values(3,3,3,'2023-03-10', '2023-03-15', 'daily');

insert into lease values(4,4,4,'2023-04-20', '2023-04-30', 'monthly');

insert into lease values(5,5,5,'2023-05-05', '2023-05-10', 'daily');

insert into lease values(6,4,3,'2023-06-15', '2023-06-30', 'monthly');

insert into lease values(7,7,7,'2023-07-01', '2023-07-10', 'daily');

insert into lease values(8,8,8,'2023-08-12', '2023-08-15', 'monthly');

insert into lease values(9,3,3,'2023-09-07', '2023-09-10', 'daily');

insert into lease values(10,10,10,'2023-10-10', '2023-10-31', 'monthly');

payment table  
insert into payment values(1,1,'2023-01-03', 200.00);

insert into payment values(2,2,'2023-02-03', 1000.00);

insert into payment values(3,3,'2023-03-03', 70.00);

insert into payment values(4,4,'2023-04-03', 900.00);

insert into payment values(5,5,'2023-05-03', 60.00);

insert into payment values(6,6,'2023-06-03', 1200.00);

insert into payment values(7,7,'2023-07-03', 40.00);

insert into payment values(8,8,'2023-08-03', 1100.00);

insert into payment values(9,9,'2023-09-03', 80.00);

insert into payment values(10,10,'2023-10-03', 1500.00);

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Queries  
1.update vehicle set dailyrate=68 where make='mercedes';

2.delete from customer where customerid=9;

delete from lease where customerid=9;

delete from payment where leaseid in(select leaseid from lease where customerid=9);

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3.alter table payment rename column paymentdate to transactiondate;

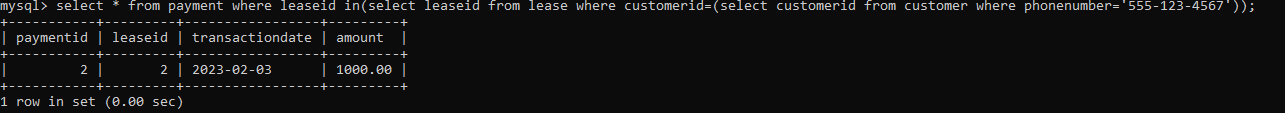
4.select \* from customer where email='robert@example.com';

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5. select \* from lease where customerid=10 and enddate>=curdate();

6.select \* from payment where leaseid in(select leaseid from lease where customerid=(select customerid from customer where phonenumber='555-432-1098'));



7.select avg(dailyrate) from vehicle where status='1';

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8.select \* from vehicle order by dailyrate desc limit 1;

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9. select \* from vehicle where vehicleid in(select vehicleid from lease where customerid=2);

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10.select \* from lease order by enddate desc limit 1;

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11.select \* from payment where year(transactiondate)=2023;

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12.select firstName from customer where customerid not in(select customerid from lease where leaseid in(select leaseid from payment));

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13. select v.make,v.model,v.year,sum(p.amount) from vehicle v left join lease l on v.vehicleid=l.vehicleid left join payment p on l.leaseid=p.leaseid group by v.vehicleid;

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14. select c.firstname,c.lastname,sum(p.amount) from customer c left join lease l on c.customerid=l.customerid left join payment p on l.leaseid=p.leaseid group by c.customerid;

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15. select v.make,v.model,v.year,l.startdate,l.enddate from vehicle v join lease l on v.vehicleid=l.vehicleid;

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16. select v.make,v.model,v.year,c.firstname,c.lastname,l.startdate,l.enddate from vehicle v join lease l on v.vehicleid=l.vehicleid join customer c on l.customerid=c.customerid where current\_date between l.startdate and l.enddate;

17. select c.firstname,c.lastname,sum(p.amount) from customer c join lease l on c.customerid=l.customerid join payment p on l.leaseid=p.leaseid group by c.customerid order by sum(p.amount) desc limit 1;

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18. select v.make,v.model,v.year,l.startdate,l.enddate from vehicle v left join lease l on v.vehicleid=l.vehicleid where current\_date between l.startdate and l.enddate;