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Course: CS-434

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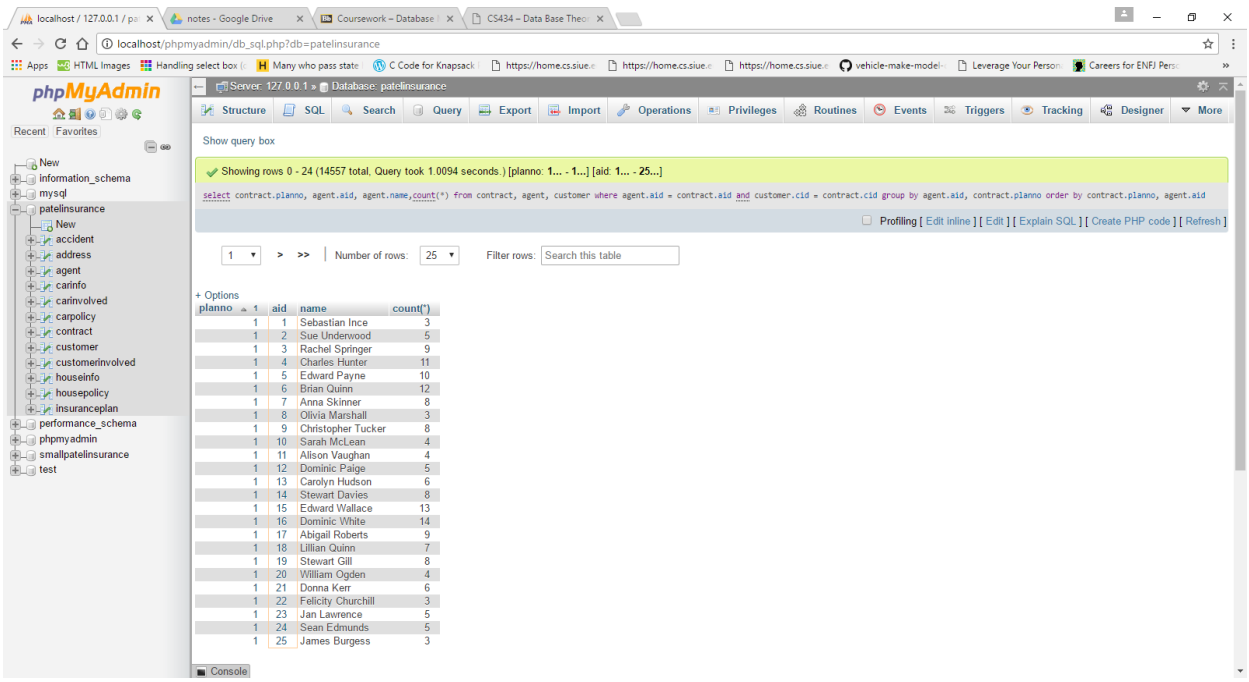
Project 5

Part1:

1) How many customers are in a specific plan under a specific agent?

   Large Database

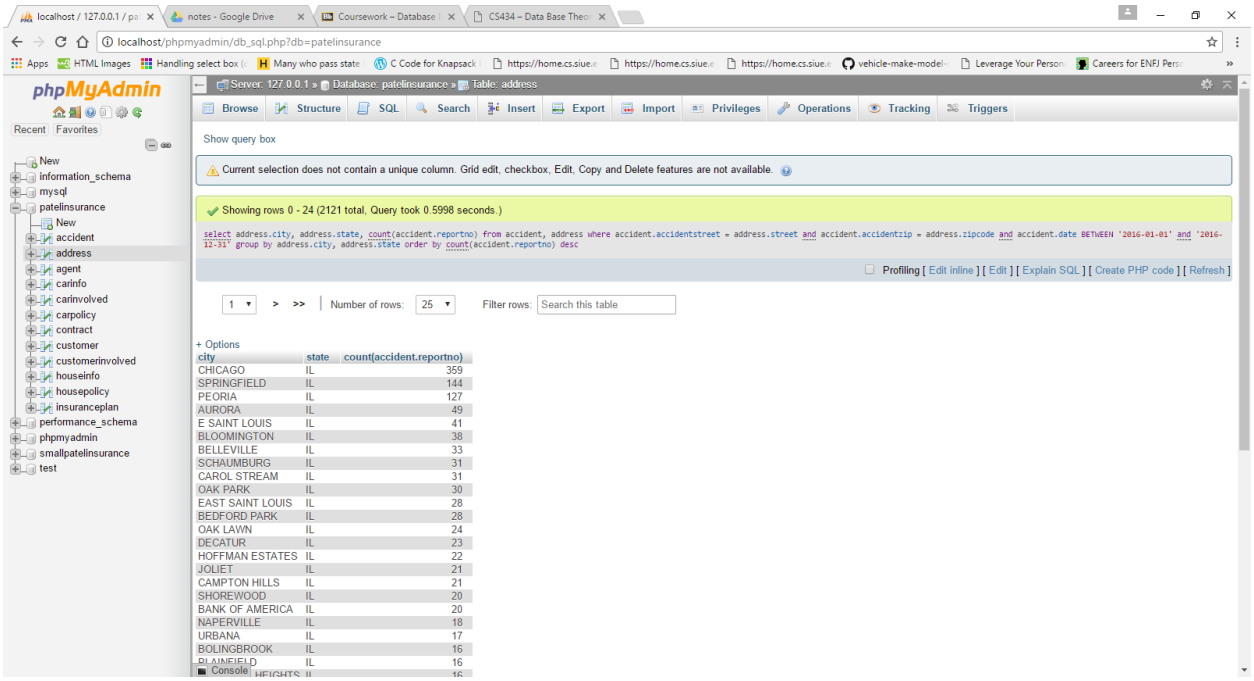
   ➔
```
select contract.planno, agent.aid, agent.name,count(*) from contract, agent, customer
where agent.aid = contract.aid and customer.cid = contract.cid group by agent.aid, con
tract.planno order by contract.planno, agent.aid
```



2) How many accidents were recorded in a specific City and State in 2016?

Large Database

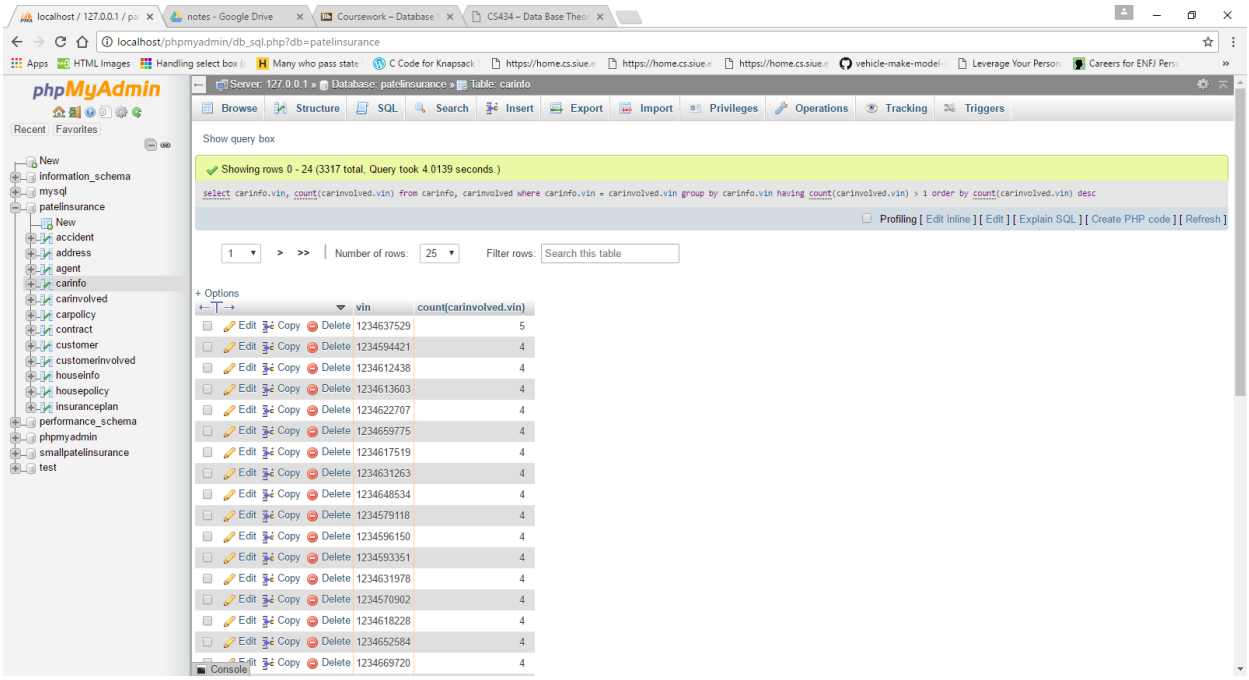
➔
```
select address.city, address.state, count(accident.reportno) from accident, address wh
ere accident.accidentstreet = address.street and accident.accidentzip = address.zipcod
e and accident.date BETWEEN '2016-01-01' and '2016-12-
31' group by address.city, address.state order by count(accident.reportno) desc
```



3) List all cars that are under a specific plan that were involved in the accident more than once?

Large Database

➔
```
select carinfo.vin, count(carinvolved.vin) from carinfo, carinvolved where carinfo.vin
 = carinvolved.vin group by carinfo.vin having count(carinvolved.vin) > 1 order by cou
nt(carinvolved.vin) desc
```

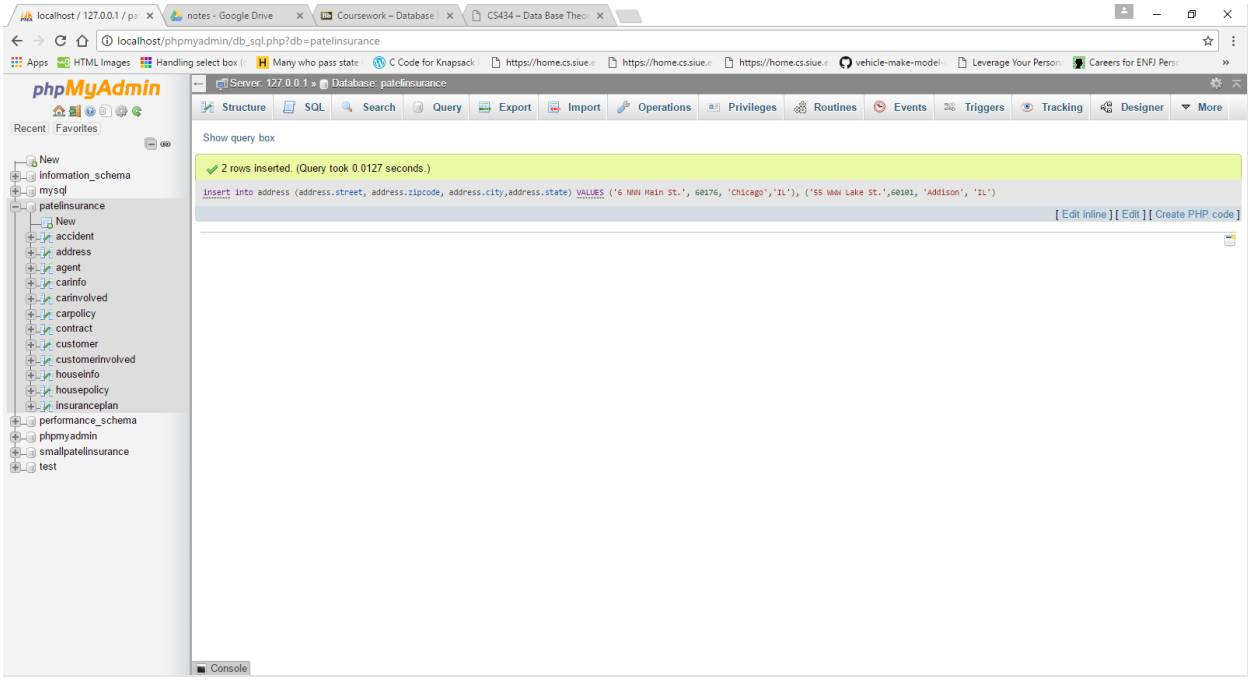


Part 2:

Large Database:

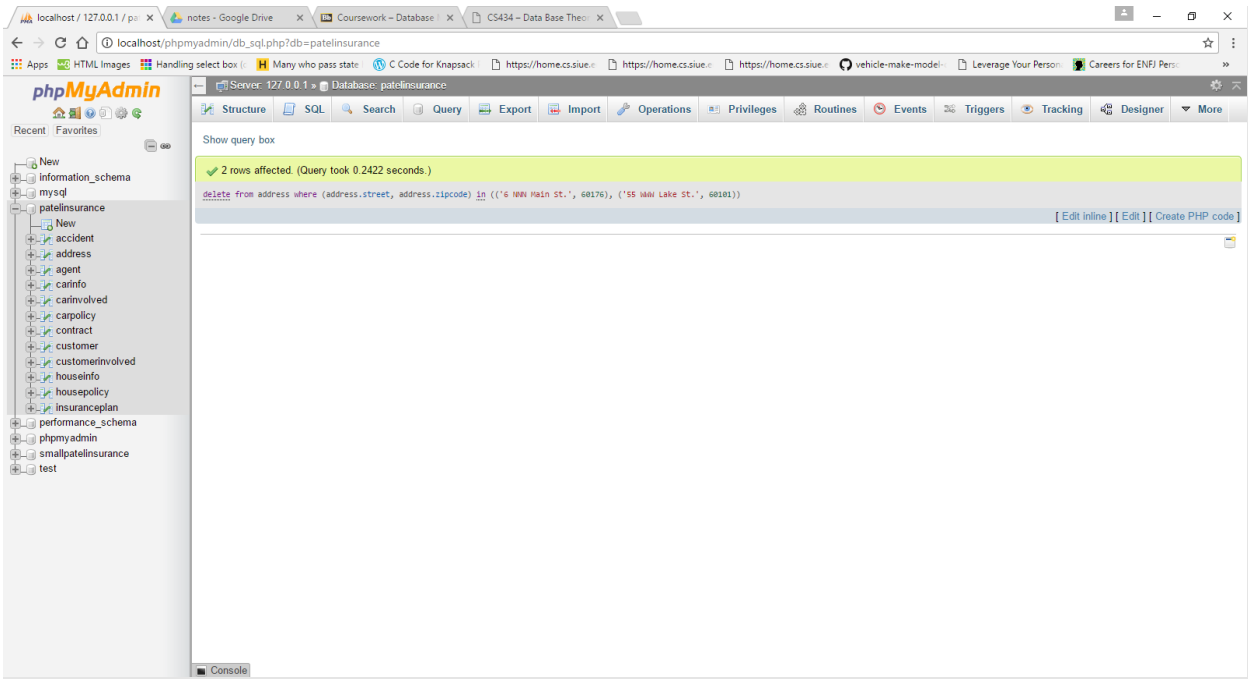
Inserting two new address into large database:

```
insert into address (address.street, address.zipcode, address.city,address.state) VALUES
('6 NNN Main St.', 60176, 'Chicago','IL'), ('55 WWW Lake St.',60101, 'Addison', 'IL')
```



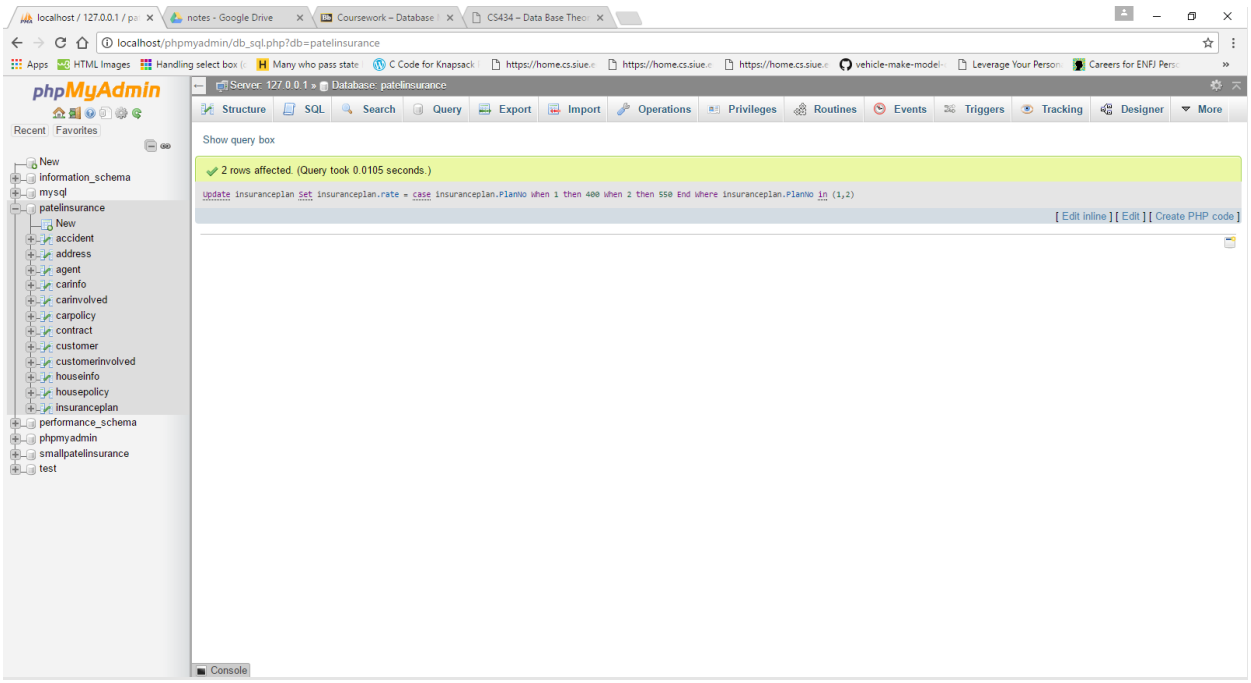
Deleting those from large database:

```
delete from address where (address.street, address.zipcode) in (('6 NNN Main St.', 60176), ('55 WWW Lake St.', 60101))
```



Updating two plan info in large database:

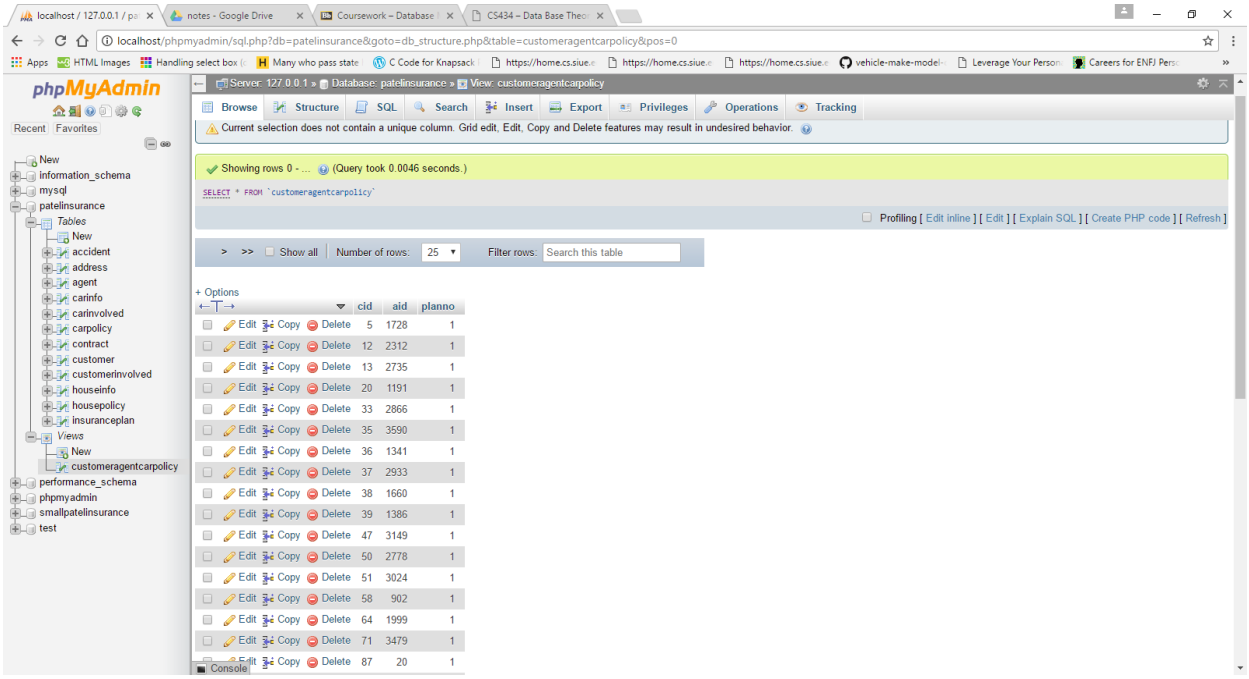
```
Update insuranceplan Set insuranceplan.rate = case insuranceplan.PlanNo
When 1 then 400 When 2 then 550 End Where insuranceplan.PlanNo in (1,2)
```



Part 3

Large Database Create view table for customer with carpolicy under specific agent:

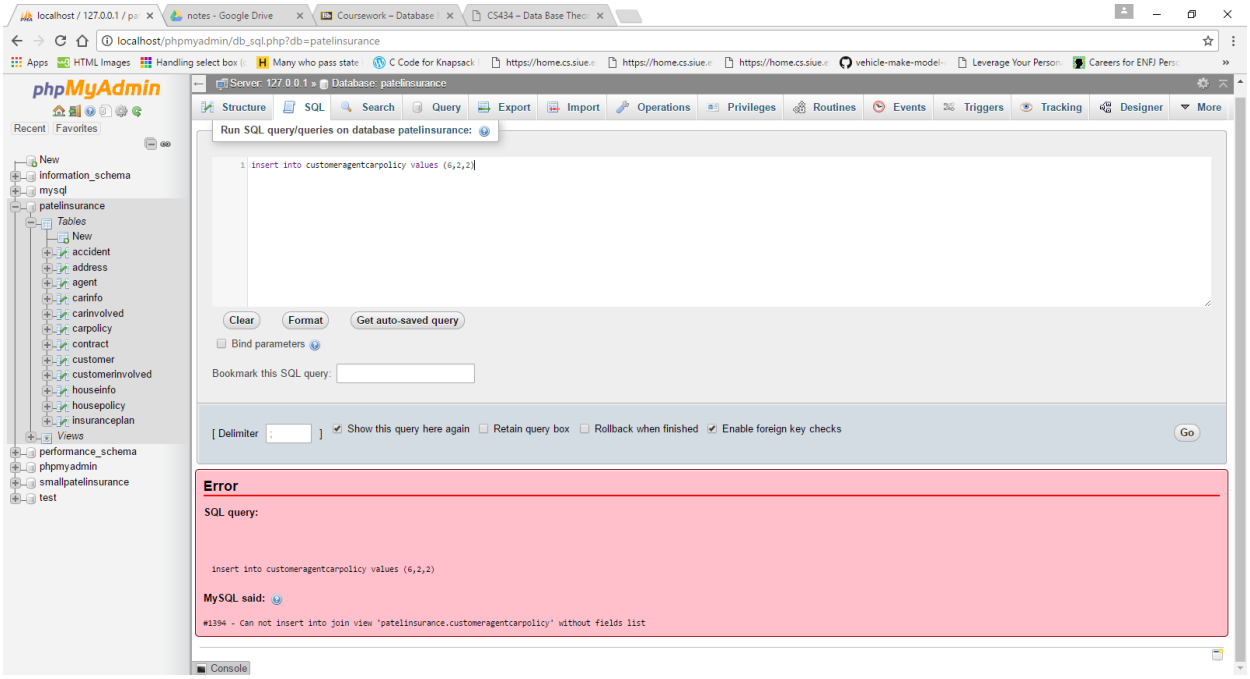
```
create view customeragentcarpolicy as
select contract.cid, contract.aid, contract.planno
from contract, carpolicy
where contract.planno = carpolicy.planno
```



Try to insert into customeragentcarpolicy:

insert into customeragentcarpolicy values (6,2,2)

➔ Try to insert this but did not work because customeragentcarpolicy view table is not updatable, smallcontract and smallcarpolicy tables have restrictions on them so cannot insert tuple that are not in the actual join tables.



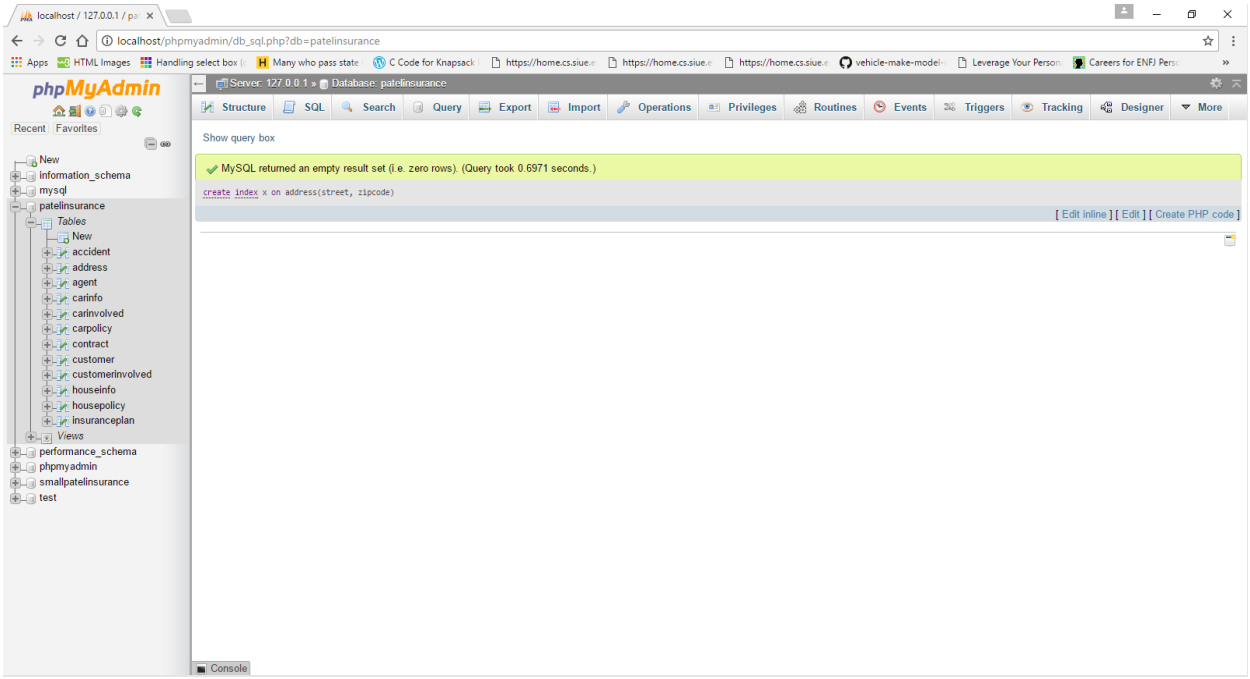
Part 4

I added index to address table on attribute street and zipcode. When I insert new address into database it did make insertion faster Also, when I delete it took less time than before. It was at least 30% faster than before.

Here is the proof of index creation:

Query:

```
create index x on address(street, zipcode)
```



Here is the image of faster inserting and deleting: