ITM 304 final project

create table cl\_customer(

CustomerID INT AUTO\_INCREMENT PRIMARY KEY,

Gender varchar(50),

Age varchar(25),

EducationID INT,

HobbyID INT,

OccupationID INT,

ZipID INT,

FOREIGN KEY (EducationID) REFERENCES cl\_education (EducationID),

FOREIGN KEY (HobbyID) REFERENCES cl\_hobby (HobbyID),

FOREIGN KEY (OccupationID) REFERENCES cl\_occupation (OccupationID),

FOREIGN KEY (ZipID) REFERENCES cl\_zip (ZipID)

)

INSERT INTO occupation(OccupationName)

SELECT DISTINCT`insured\_occupation` FROM FP\_Claims.`Claims`

insert INTO cl\_city(CityName, StateID)

SELECT

DISTINCT `incident\_city`,

StateID

FROM

cl\_state s,

FP\_Claims.`Claims` c

WHERE

s.StateName = c.StateName

SELECT

DISTINCT insured\_zip,

CityID

FROM

cl\_city c,

FP\_Claims.`Claims` cl

WHERE

c.CityName = cl.incident\_city

SELECT

DISTINCT `insured\_sex`,

`age`, policy\_number,

HobbyID,

EducationID,

OccupationID,

insured\_zip

FROM

cl\_hobby h,

cl\_education e,

cl\_occupation o,

FP\_Claims.Claims c

WHERE

h.HobbyName = c.insured\_hobbies

AND e.EducationLevel = c.`insured\_education\_level`

AND o.OccupationName = c.`insured\_occupation`

INSERT INTO cl\_vehicle (`Auto\_Model`,`Auto\_Make`,`Auto\_Year`,`PolicyNumber`)

SELECT

DISTINCT `auto\_model`,

`auto\_make`,

`auto\_year`,

PolicyNumber

FROM

cl\_policy p,

FP\_Claims.`Claims` c

WHERE

p.PolicyNumber = c.policy\_number

CREATE VIEW FinalProject\_claims\_incidentstate\_view AS

SELECT

ClaimID,

p.PolicyNumber,

BindDate,

CSL,

Deductible,

AnnualPremium,

UmbrellaLimit,

i.IncidentID,

IncidentDate,

IncidentTypeName,

CollisionTypeName,

IncidentSeverity,

IncidentHour,

IncidentAddress,

cl\_city.IncidentCity,

StateName as IncidentState,

Number\_of\_Vehicles\_Involved,

PropertyDamage,

BodilyInjuries,

VehicleID,

Auto\_Model,

Auto\_Make,

Auto\_Year,

InsuredID,

Gender,

Age,

Zip,

HobbyName,

EducationLevel,

OccupationName,

PropertyClaimAmount,

InjuryClaimAmount,

VehicleClaimAmount

FROM

cl\_CollisionType ct,

cl\_IncidentType it,

cl\_city,

cl\_claim cl,

cl\_education e,

cl\_hobby h,

cl\_incident i,

cl\_insured ins,

cl\_occupation o,

cl\_policy p,

cl\_state s,

cl\_vehicle v

WHERE

ins.EducationID = e.EducationID

AND ins.HobbyID = h.HobbyID

AND ins.OccupationID = o.OccupationID

AND ins.PolicyNumber = p.PolicyNumber

AND i.IncidentType = it.IncidentTypeID

AND i.CollisionType = ct.CollisionTypeID

AND i.IncidentCity = cl\_city.CityID

AND i.PolicyNumber = p.PolicyNumber

AND cl\_city.IncidentStateID = s.StateID

AND cl.IncidentID = i.IncidentID

AND v.PolicyNumber = p.PolicyNumber

ORDER BY 1

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CREATE VIEW FinalProject\_claims\_policystate\_view AS

SELECT

p.PolicyNumber,

StateName as PolicyState

FROM

cl\_policy p,

cl\_state s

WHERE

p.PolicyStateID = s.StateID

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Join two views to form a new view which is used for querry:

CREATE VIEW FinalProject\_claims\_view AS

SELECT

`ClaimID`,

v1.`PolicyNumber`,

`BindDate`,

`PolicyState`,

`CSL`,

`Deductible`,

`AnnualPremium`,

`UmbrellaLimit`,

`IncidentID`,

`IncidentDate`,

`IncidentTypeName`,

`CollisionTypeName`,

`IncidentSeverity`,

`IncidentHour`,

`IncidentAddress`,

`IncidentCity`,

`IncidentState`,

`Number\_of\_Vehicles\_Involved`,

`PropertyDamage`,

`BodilyInjuries`,

`VehicleID`,

`Auto\_Model`,

`Auto\_Make`,

`Auto\_Year`,

`InsuredID`,

`Gender`,

`Age`,

`Zip`,

`HobbyName`,

`EducationLevel`,

`OccupationName`,

`PropertyClaimAmount`,

`InjuryClaimAmount`,

`VehicleClaimAmount`

FROM

`FinalProject\_claims\_incidentstate\_view` v1

JOIN FinalProject\_claims\_policystate\_view v2 ON

v1.PolicyNumber = v2.PolicyNumber

Querries:

1. Display total claim amount by year and by month

SELECT

Year(`IncidentDate`),

Date\_Format(`IncidentDate`,'%M') AS Month,

SUM(PropertyClaimAmount)+ SUM(`InjuryClaimAmount`)+ SUM(`InjuryClaimAmount`) as TotalClaimAmount

FROM

`FinalProject\_claims\_view`

GROUP BY 1, 2

ORDER BY 3 DESC

1. Display total claim amount by PolicyState

SELECT

PolicyState,

SUM(PropertyClaimAmount)+ SUM(InjuryClaimAmount)+ SUM(InjuryClaimAmount) as TotalClaimAmount

FROM

`FinalProject\_claims\_view`

GROUP BY 1

1. Display number of policies by year and by state

(How many new policies are generated by each state in each year?)

SELECT

year(BindDate),

PolicyState,

COUNT(\*)

FROM

`FinalProject\_claims\_view`

GROUP BY 1,2

1. Display number of incidents by gender (Does gender affect number of incidents?)

SELECT

Gender,

Count(\*)

FROM

FinalProject\_claims\_view

GROUP BY 1

1. Display number of incidents by age (Which age is prone to have car incidents?)

SELECT

Age,

Count(\*)

FROM

FinalProject\_claims\_view

GROUP BY 1

ORDER BY 2 DESC

1. Display number of incidents by Auto\_Year (Does the age of vehicle affect the number of incidents?)

SELECT

Auto\_Year,

Year(IncidentDate)- Auto\_Year as Vehicle\_Age,

COUNT(\*)

FROM

FinalProject\_claims\_view

GROUP BY 1, 2

ORDER BY 3 DESC

1. Display number of incidents by Auto\_Model (Which vehicle Model tend to have more incidents?)

SELECT

Auto\_Make,

Auto\_Model,

COUNT(\*)

FROM

FinalProject\_claims\_view

GROUP BY 1, 2

ORDER BY 3 DESC

1. Display number of claims by occupation (Does occupation affect claims?)

SELECT

OccupationName,

COUNT(\*)

FROM

FinalProject\_claims\_view

GROUP BY 1

ORDER BY 2 DESC

1. Display number of claims by education (Does education affect claims?)

SELECT

EducationLevel,

COUNT(\*)

FROM

FinalProject\_claims\_view

GROUP BY 1

ORDER BY 2 DESC

1. Display number of claims by incident hour (In which hour of the day does most incidents occur?)

SELECT

IncidentHour,

COUNT(\*)

FROM

FinalProject\_claims\_view

GROUP BY 1

ORDER BY 1

1. Display number of ‘total loss’ claims by age (Drivers at which age are more likely to have a ‘total loss’ incident?)

SELECT

IncidentSeverity,

Age as Driver\_Age,

COUNT(\*)

FROM

FinalProject\_claims\_view

WHERE

IncidentSeverity = 'Total Loss'

GROUP BY 1

ORDER BY 2 DESC

1. Display number of claims by collision type (Which collision type is more frequent?)

SELECT

CollisionTypeName,

COUNT(\*)

FROM

FinalProject\_claims\_view

GROUP BY 1

ORDER BY 2 DESC

1. Display number of incidents by incident type (Which incidents type is more frequent?)

SELECT

IncidentTypeName,

COUNT(\*)

FROM

FinalProject\_claims\_view

GROUP BY 1

ORDER BY 2 DESC

1. Display number of incidents by Incident State

SELECT

IncidentStateName,

COUNT(\*)

FROM

FinalProject\_claims\_view

GROUP BY 1

ORDER BY 2 DESC

1. Display Total Revenue by policy state  
      
   SELECT   
    PolicyState,   
    SUM(AnnualPremium) TotalRevenue  
   FROM   
    `FinalProject\_claims\_view`   
   GROUP BY 1  
   ORDER BY 2
2. Display gain/loss by PolicyState and by Year (Which policy state has most gain?)

SELECT

year(IncidentDate),

PolicyState,

SUM(AnnualPremium) TotalRevenue,

SUM(PropertyClaimAmount)+ SUM(InjuryClaimAmount)+ SUM(VehicleClaimAmount) as TotalClaimAmount,

SUM(AnnualPremium)- (SUM(PropertyClaimAmount)+ SUM(InjuryClaimAmount)+ SUM(VehicleClaimAmount)) as Gain\_or\_Loss

FROM

`FinalProject\_claims\_view`

GROUP BY 1, 2

order BY 2