**Task 1**

create table shopping\_history

(

product varchar not null,

quantity integer not null,

unit\_price integer not null

)

insert into shopping\_history(product,quantity,unit\_price) values ('milk',3,10);

insert into shopping\_history(product,quantity,unit\_price) values ( 'bread',7,3);

insert into shopping\_history(product,quantity,unit\_price) values ( 'bread',5,2);

select \*from shopping\_history

select product, sum(quantity\*unit\_price) as total\_price from shopping\_history group by product

PRODUCT TOTAL\_PRICE

milk 30

bread 31

**Task 2(1)**

create table phones (

name varchar(20) not null unique,

phone\_number integer not null unique

)

create table calls (

id integer not null,

caller integer not null,

callee integer not null,

duration integer not null,

unique(id)

)

insert into phones values ('jack',1234),('Lena',3333),('Mark',9999),('Anna',7582)

select \* from phones

insert into calls values(25,1234,7582,8),(7,9999,7582,1),(18,9999,3333,4),(2,7582,3333,3),(3,3333,1234,1),(21,3333,1234,1)

select \* from calls

with t1 as

(select caller,sum(duration) as total\_time from calls group by caller

union

select callee, sum(duration) from calls group by callee),

t2 as

(select caller as name, sum(total\_time) as total\_duration from t1 group by name),

t3 as

(select p.name,t.total\_duration from phones p left join t2 t on p.phone\_number=t.name)

select name from t3 where total\_duration >=10 order by total\_duration desc

NAME

Anna

jack

**Task 2(2)**

create table phones1 (

name varchar(20) not null unique,

phone\_number integer not null unique

)

create table calls1 (

id integer not null,

caller integer not null,

callee integer not null,

duration integer not null,

unique(id)

)

insert into phones1 values ('John',6356),('Addison',4315),('Kate',8003),('Ginny',9831)

select \* from phones1

insert into calls1 values(63,8003,9831,7),(100,9831,8003,3),(145,4315,9831,18)

select \* from calls1

select p.name from phones1 p join calls1 c on c.caller= p.phone\_number order by p.name

NAME

Addison

Ginny

Kate

**Task 3**

create table transactions

(

amount integer not null,

date date not null)

insert into transactions (amount,date) values

(1000,'2020-01-06'),

(-10,'2020-01-14'),

(-75,'2020-01-20'),

(-5,'2020-01-25'),

(-4,'2020-01-29'),

(2000,'2020-03-10'),

(-75,'2020-03-12'),

(-20,'2020-03-15'),

(40,'2020-03-15'),

(-50,'2020-03-17'),

(200,'2020-10-10'),

(-200,'2020-10-10')

select \* from transactions

with t1 as (

select month(date) as month ,sum(amount) as payment\_amount ,count(amount)as no\_of\_transactions from transactions

where amount <0

group by month(date) ),

t2 as

(select (12-count(month)) as no\_of\_months\_charge from t1 where (payment\_amount <= -100) and (no\_of\_transactions >= 3) ),

t3 as

(select (sum(amount)-(select (no\_of\_months\_charge \*5) from t2)) as balance from transactions )

select \*from t3

BALANCE

2746

**Task 3(2)**

create table transactions1

(

amount integer not null,

date date not null)

insert into transactions1 (amount,date) values

(1,'2020-06-29'),

(35,'2020-02-20'),

(-50,'2020-02-03'),

(-1,'2020-02-26'),

(-200,'2020-08-01'),

(-44,'2020-02-07'),

(-5,'2020-02-25'),

(1,'2020-06-29'),

(1,'2020-06-29'),

(-100,'2020-12-29'),

(-100,'2020-12-30'),

(-100,'2020-12-31')

select \* from transactions1

with s1 as (

select month(date) as month ,sum(amount) as payment\_amount ,count(amount)as no\_of\_transactions from transactions1

where amount <0

group by month(date) ),

s2 as

(select (12-count(month)) as no\_of\_months\_charge from s1 where (payment\_amount <= -100) and (no\_of\_transactions >= 3) ),

s3 as

(select (sum(amount)-(select (no\_of\_months\_charge \*5) from s2)) as balance from transactions1 )

select \*from s3

BALANCE

-612

**Task 3(3)**

create table transactions2

(

amount integer not null,

date date not null)

insert into transactions2 (amount,date) values

(6000,'2020-04-03'),

(5000,'2020-04-02'),

(4000,'2020-04-01'),

(3000,'2020-03-01'),

(2000,'2020-02-01'),

(1000,'2020-01-01')

select \* from transactions2

with q1 as (

select month(date) as month ,sum(amount) as payment\_amount ,count(amount)as no\_of\_transactions from transactions2

where amount <0

group by month(date) ),

q2 as

(select (12-count(month)) as no\_of\_months\_charge from q1 where (payment\_amount <= -100) and (no\_of\_transactions >= 3) ),

q3 as

(select (sum(amount)-(select (no\_of\_months\_charge \*5) from q2)) as balance from transactions2 )

select \*from q3

BALANCE

20940