

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

Project Description:

Design a database for a web based commercial real estate deal (sales and loans) tracking system for use by commercial real estate brokers. (both sales and financing). The system will track deals, which consists of one or properties and the quotes that an investor or lender will provide. In addition, the system will track the fees or revenue that broker receives for each deal. The workflow will consist of moving the deal through a pipeline from prospect to close. Each step will be described as a deal status. If the broker is unable to find an investor or lender the deal will be placed in the lost deal status.

Stakeholders:

Brokers:

Analyst – primary user. Task with managing the daily task of the applicable.

Originators – Act as the direct intermediary between borrowers

Manager – Will use the database for reporting. To managed deal status and overall revenue

Lenders/Investors: Individuals looking to either purchase a property or provide a loan for property. Will quote or pass on a deal based upon portfolio/investment criteria

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

Repeatable Script:

```
-- drop all tables in reverse order of their dependencies
IF OBJECT_ID('dbo.quote', 'U') IS NOT NULL
    DROP TABLE dbo.quote;
go
```

```
IF OBJECT_ID('dbo.bridge_deal_contact', 'U') IS NOT NULL
    DROP TABLE dbo.bridge_deal_contact;
go
```

```
IF OBJECT_ID('dbo.deal', 'U') IS NOT NULL
    DROP TABLE dbo.deal;
go
```

```
IF OBJECT_ID('dbo.contact', 'U') IS NOT NULL
    DROP TABLE dbo.contact;
go
```

```
IF OBJECT_ID('dbo.organization', 'U') IS NOT NULL
    DROP TABLE dbo.organization;
go
```

```
IF OBJECT_ID('dbo.organization_type', 'U') IS NOT NULL
    DROP TABLE dbo.organization_type;
go
```

```
IF OBJECT_ID('dbo.contact_type', 'U') IS NOT NULL
    DROP TABLE dbo.contact_type;
go
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
IF OBJECT_ID('dbo.city', 'U') IS NOT NULL
    DROP TABLE dbo.city;
go
```

```
IF OBJECT_ID('dbo.state', 'U') IS NOT NULL
    DROP TABLE dbo.state;
go
```

```
IF OBJECT_ID('dbo.property_type', 'U') IS NOT NULL
    DROP TABLE dbo.property_type;
go
```

```
IF OBJECT_ID('dbo.deal_status', 'U') IS NOT NULL
    DROP TABLE dbo.deal_status;
go
```

```
-- create all tables in order of their dependencies
--
-- Table structure for table city
--
```

```
CREATE TABLE city (
    city_id int NOT NULL IDENTITY,
    city varchar(50) NOT NULL,
    state_code varchar(4) NOT NULL,
    CONSTRAINT pk_city PRIMARY KEY (city_id),
);
go
```

```
-----
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
--  
-- Table structure for table organization_type  
--
```

```
CREATE TABLE organization_type (  
  organization_type_id int NOT NULL IDENTITY,  
  name varchar(100) NOT NULL,  
  CONSTRAINT pk_organization_type PRIMARY KEY (organization_type_id),  
);  
go
```

```
-----
```

```
--  
-- Table structure for table property_type  
--
```

```
CREATE TABLE property_type (  
  property_type_id int NOT NULL IDENTITY,  
  name varchar(50) NOT NULL,  
  CONSTRAINT pk_property_type PRIMARY KEY (property_type_id),  
);  
go
```

```
-----
```

```
--  
-- Table structure for table deal_status  
--
```

```
CREATE TABLE deal_status (  
  deal_status_id int NOT NULL IDENTITY,  
  name varchar(50) NOT NULL,  
  CONSTRAINT pk_deal_status PRIMARY KEY (deal_status_id),  
);  
go
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
deal_status_id int NOT NULL IDENTITY,  
name varchar(20) NOT NULL  
CONSTRAINT pk_deal_status PRIMARY KEY (deal_status_id),
```

```
);  
go
```

```
-----
```

```
--  
-- Table structure for table state  
--
```

```
CREATE TABLE state (  
state_id int NOT NULL IDENTITY,  
state varchar(22) NOT NULL,  
state_code char(4) NOT NULL,  
country_code varchar(10) NOT NULL,  
CONSTRAINT pk_state PRIMARY KEY (state_id),
```

```
);  
go
```

```
-----
```

```
--  
-- Table structure for table contact_type  
--
```

```
CREATE TABLE contact_type (  
contact_type_id int NOT NULL IDENTITY,  
name varchar(20) NOT NULL  
CONSTRAINT pk_contact_type PRIMARY KEY (contact_type_id),  
);
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

go

--
-- Table structure for table organization
--

```
CREATE TABLE organization (  
  organization_id int NOT NULL IDENTITY,  
  name varchar(100) NOT NULL,  
  organization_type_id int NULL,  
  address varchar(100) NOT NULL,  
  city_id int NULL,  
  state_id int NULL,  
  CONSTRAINT pk_organization PRIMARY KEY (organization_id),  
  CONSTRAINT fk1_organization_type FOREIGN KEY (organization_type_id)  
REFERENCES dbo.organization_type (organization_type_id)  
);  
go
```

--
-- Table structure for table contact
--

```
CREATE TABLE contact (  
  contact_id int NOT NULL IDENTITY,  
  email varchar(50) NOT NULL,  
  organization_id int NOT NULL,  
  username varchar(50) NOT NULL,  
  password varchar(50) NOT NULL,  
  first_name varchar(25) NOT NULL,
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
last_name varchar(25) NOT NULL,  
CONSTRAINT pk_contact PRIMARY KEY (contact_id),  
CONSTRAINT fk1_organization FOREIGN KEY (organization_id) REFERENCES  
dbo.organization (organization_id)  
);  
go
```

```
--  
-- Table structure for table deal  
--
```

```
CREATE TABLE deal (  
deal_id int NOT NULL IDENTITY,  
name varchar(50) NOT NULL,  
amount int NOT NULL,  
originator_id int NOT NULL,  
analyst_id int NOT NULL,  
borrower_id int NOT NULL,  
fee int NOT NULL,  
deal_status_id int NOT NULL,  
property_type_id int NOT NULL,  
city_id int NOT NULL,  
state_id int NOT NULL,  
address varchar(50) NULL,  
date_active date NULL,  
date_accepted date NULL,  
date_closed date NULL,  
date_modified date NOT NULL,  
CONSTRAINT pk_deal PRIMARY KEY (deal_id),  
CONSTRAINT fk1_deal_status FOREIGN KEY (deal_status_id) REFERENCES  
dbo.deal_status (deal_status_id),  
CONSTRAINT fk1_property_type FOREIGN KEY (property_type_id)  
REFERENCES dbo.property_type (property_type_id),  
CONSTRAINT fk1_city FOREIGN KEY (city_id) REFERENCES dbo.city (city_id),
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
CONSTRAINT fk1_state FOREIGN KEY (state_id) REFERENCES dbo.state
(state_id),
CONSTRAINT fk2_contact1 FOREIGN KEY (originator_id) REFERENCES
dbo.contact (contact_id),
CONSTRAINT fk2_contact2 FOREIGN KEY (analyst_id) REFERENCES
dbo.contact (contact_id),
CONSTRAINT fk2_contact3 FOREIGN KEY (borrower_id) REFERENCES
dbo.contact (contact_id),
);
go
```

```
--
-- Table structure for table bridge_deal_contact
--
```

```
CREATE TABLE bridge_deal_contact (
  bridge_dc_id int NOT NULL IDENTITY,
  deal_id int NOT NULL,
  contact_id int NOT NULL,
  organization_id int NOT NULL,
  contact_type_id int NOT NULL,
  CONSTRAINT pk_bridge_dc PRIMARY KEY (bridge_dc_id),
  CONSTRAINT fk1_deal FOREIGN KEY (deal_id) REFERENCES dbo.deal (deal_id),
  CONSTRAINT fk2_contact FOREIGN KEY (contact_id) REFERENCES dbo.contact
(contact_id),
  CONSTRAINT fk3_organization FOREIGN KEY (organization_id) REFERENCES
dbo.organization (organization_id),
  CONSTRAINT fk4_contact_type FOREIGN KEY (contact_type_id) REFERENCES
dbo.contact_type (contact_type_id)
);
go
```


CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
--  
-- Table structure for table quote  
--
```

```
CREATE TABLE quote (  
  quote_id int NOT NULL IDENTITY,  
  deal_id int NOT NULL,  
  contact_id int NOT NULL,  
  amount int NOT NULL,  
  is_winning_quote int NULL,  
  CONSTRAINT pk_quote PRIMARY KEY (quote_id),  
  CONSTRAINT fk1_quote_deal FOREIGN KEY (deal_id) REFERENCES dbo.deal  
(deal_id),  
  CONSTRAINT fk2_quote_contact FOREIGN KEY (contact_id) REFERENCES  
dbo.contact (contact_id),  
);  
go
```

----- insert records

```
INSERT INTO city (city, state_code) VALUES  
( 'Buffalo', 'NY'),  
( 'Rochester', 'NY'),  
( 'Syracuse', 'NY');  
go
```

```
INSERT INTO state (state, state_code, country_code) VALUES  
( 'New York', 'NY', 'US');
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

go

```
INSERT INTO organization_type (name) VALUES
```

```
('broker'),
```

```
('borrower'),
```

```
('lender');
```

go

```
INSERT INTO property_type (name) VALUES
```

```
('Retail'),
```

```
('MultiFamily'),
```

```
('Hotel'),
```

```
('Office');
```

go

```
INSERT INTO contact_type (name) VALUES
```

```
('originator'),
```

```
('analyst'),
```

```
('borrower'),
```

```
('lender');
```

go

```
INSERT INTO deal_status (name) VALUES
```

```
('active'),
```

```
('accepted'),
```

```
('closed'),
```

```
('lost');
```

go

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
INSERT INTO organization (name, organization_type_id, address, city_id,
state_id) VALUES
('International Development Company', (select distinct organization_type_id
from organization_type where name='borrower'), '210 City Building', '1', '1'),
('Upstate Developer LLC', (select distinct organization_type_id from
organization_type where name='borrower'), '2 River Road', '1', '1'),
('Real Estate Advisors, Inc.', (select distinct organization_type_id from
organization_type where name='broker'), '123 Main Street', '3', '1'),
('River Capital', (select distinct organization_type_id from organization_type
where name='lender'), '555 main street', '2', '1'),
('REIT Investment Trust', (select distinct organization_type_id from
organization_type where name='lender'), '1818 Main Street', '2', '1'),
('Liberty Bank', (select distinct organization_type_id from organization_type
where name='lender'), '315 Main Street', '2', '1'),
('Financial Group', (select distinct organization_type_id from organization_type
where name='lender'), '115 Lawrence Drive', '1', '1'),
('Star Bank', (select distinct organization_type_id from organization_type
where name='lender'), '85 Main Street', '1', '1'),
('USA Realty Capital', (select distinct organization_type_id from
organization_type where name='lender'), '330 Madison Avenue, 22nd Floor',
'3', '1'),
('Global Markets, Inc.', (select distinct organization_type_id from
organization_type where name='lender'), '11 Greenwich Street', '3', '1');
go
```

```
INSERT INTO contact (email, organization_id, username, password, first_name,
last_name) VALUES
('bill@thecat.com', (select distinct organization_id from organization where
name = 'Upstate Developer LLC'), 'bill', 'bill', 'Bill', 'Clinton'),
('chelsea@hillary.com', (select distinct organization_id from organization where
name like '%Real Estate Advisors%'), 'Chelsea', 'Chelsea', 'Chelsea', 'Clinton'),
('hilary@hillary.com', (select distinct organization_id from organization where
name like '%Real Estate Advisors%'), 'hillary', 'hill', 'Clinton', 'Hillary'),
('george@bush.com', (select distinct organization_id from organization where
name = 'River Capital'), 'George', 'bush', 'George', 'Bush'),
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
('Jim@Carry.com', (select distinct organization_id from organization where
name = 'REIT Investment Trust'), 'Jim', 'Carrey', 'Jim ', 'Carrey'),
('Eddie@Murphy.com', (select distinct organization_id from organization where
name = 'Liberty Bank'), 'Eddie', 'Murphy', 'Eddie ', 'Murphy'),
('Dave@Chappelle.com', (select distinct organization_id from organization
where name = 'Financial Group'), 'Dave', 'Chappelle', 'Dave ', 'Chappelle'),
('Chevy@Chase.com', (select distinct organization_id from organization where
name = 'Star Bank'), 'Chevy', 'Chevy', 'Chevy ', 'Chase'),
('Steve@Allen.com', (select distinct organization_id from organization where
name = 'Global Markets, Inc.'), 'Steve', 'Steve', 'Steven ', 'Allen');
go
```

```
INSERT INTO deal (name, amount, deal_status_id, date_modified,
property_type_id, city_id, state_id, address, fee, date_active, date_accepted,
date_closed, originator_id, analyst_id, borrower_id) VALUES
('1234 FIELDHOUSE ', 5400000, (select distinct deal_status_id from deal_status
where name='active'), GetDate(), (select distinct property_type_id from
property_type where name='Retail'), (Select distinct city_id from city where
city='Syracuse'), '1', 'New Place', 13200, GetDate(), NULL, NULL, (Select distinct
contact_id from contact where username='hillary'), (Select distinct contact_id
from contact where username='Chelsea'), (Select distinct contact_id from
contact where username='bill') ),
('1234 Apartment Bldg', 3200000, (select distinct deal_status_id from
deal_status where name='active'), GetDate(), (select distinct property_type_id
from property_type where name='MultiFamily'), (Select distinct city_id from
city where city='Syracuse'), '1', 'New Place', 53200, GetDate(), NULL, NULL,
(Select distinct contact_id from contact where username='hillary'), (Select
distinct contact_id from contact where username='Chelsea'), (Select distinct
contact_id from contact where username='bill') ),
('1234 Office Space', 350000, (select distinct deal_status_id from deal_status
where name='closed'), GetDate(), (select distinct property_type_id from
property_type where name='Office'), (Select distinct city_id from city where
city='Syracuse'), '1', 'New Place', 11200, GetDate(), GetDate(), GetDate(),
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
(Select distinct contact_id from contact where username='hillary'),(Select
distinct contact_id from contact where username='Chelsea'),(Select distinct
contact_id from contact where username='bill') ),
('1234 Retail Plaza', 120000, (select distinct deal_status_id from deal_status
where name='closed'), GetDate(), (select distinct property_type_id from
property_type where name='Retail'), (Select distinct city_id from city where
city='Syracuse'), '1', 'New Place', 143200, GetDate(), GetDate(), GetDate(),
(Select distinct contact_id from contact where username='hillary'),(Select
distinct contact_id from contact where username='hillary'),(Select distinct
contact_id from contact where username='bill') ),
('1234 Shorline Homes ', 20000, (select distinct deal_status_id from deal_status
where name='closed'), GetDate(), (select distinct property_type_id from
property_type where name='MultiFamily'), (Select distinct city_id from city
where city='Syracuse'), '1', 'New Place', 63200, GetDate(), GetDate(), GetDate(),
(Select distinct contact_id from contact where username='hillary'),(Select
distinct contact_id from contact where username='Chelsea'),(Select distinct
contact_id from contact where username='bill') ),
('1234 Big City Apartments', 450000, (select distinct deal_status_id from
deal_status where name='closed'), GetDate(), (select distinct property_type_id
from property_type where name='MultiFamily'), (Select distinct city_id from
city where city='Syracuse'), '1', 'New Place', 92200, GetDate(), GetDate(),
GetDate(), (Select distinct contact_id from contact where username='hillary'),
(Select distinct contact_id from contact where username='hillary'),(Select
distinct contact_id from contact where username='bill') ),
('1234 Lofts', 330000, (select distinct deal_status_id from deal_status where
name='closed'), GetDate(), (select distinct property_type_id from
property_type where name='MultiFamily'), (Select distinct city_id from city
where city='Syracuse'), '1', 'New Place', 53200, GetDate(), GetDate(), GetDate(),
(Select distinct contact_id from contact where username='hillary'),(Select
distinct contact_id from contact where username='Chelsea'),(Select distinct
contact_id from contact where username='bill') ),
('1234 RiverView', 22000, (select distinct deal_status_id from deal_status
where name='closed'), GetDate(), (select distinct property_type_id from
property_type where name='MultiFamily'), (Select distinct city_id from city
where city='Syracuse'), '1', 'New Place', 73200, GetDate(), GetDate(), NULL,
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
(Select distinct contact_id from contact where username='hillary'),(Select
distinct contact_id from contact where username='hillary'),(Select distinct
contact_id from contact where username='bill') ),
('1234 Commerce Park ',7620000, (select distinct deal_status_id from
deal_status where name='accepted'), GetDate(), (select distinct
property_type_id from property_type where name='Office'), (Select distinct
city_id from city where city='Syracuse'), '1', 'New Place', 93200, GetDate(),
GetDate(), NULL, (Select distinct contact_id from contact where
username='hillary'),(Select distinct contact_id from contact where
username='Chelsea'),(Select distinct contact_id from contact where
username='bill') ),
('1234 Office Bldg', 14000000, (select distinct deal_status_id from deal_status
where name='accepted'), GetDate(), (select distinct property_type_id from
property_type where name='Office'), (Select distinct city_id from city where
city='Syracuse'), '1', 'New Place', 1143200, GetDate(), NULL, NULL, (Select
distinct contact_id from contact where username='hillary'),(Select distinct
contact_id from contact where username='hillary'),(Select distinct contact_id
from contact where username='bill') );
go
```

```
INSERT INTO quote (deal_id, contact_id, amount) VALUES
((select deal_id from deal where name='1234 FIELDHOUSE'), (select contact_id
from contact where username='Chevy'), 5100000),
((select deal_id from deal where name='1234 FIELDHOUSE'), (select contact_id
from contact where username='Jim'), 5000000),
((select deal_id from deal where name='1234 FIELDHOUSE'), (select contact_id
from contact where username='Dave'), 4900000),
((select deal_id from deal where name='1234 Apartment Bldg'), (select
contact_id from contact where username='Jim'), 3200000),
((select deal_id from deal where name='1234 Apartment Bldg'), (select
contact_id from contact where username='Eddie'), 3100000),
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
((select deal_id from deal where name='1234 Apartment Bldg'), (select
contact_id from contact where username='Dave'), 2500000),
((select deal_id from deal where name='1234 Office Space'), (select contact_id
from contact where username='Jim'), 330000),
((select deal_id from deal where name='1234 Office Space'), (select contact_id
from contact where username='Chevy'), 320000),
((select deal_id from deal where name='1234 Office Bldg'), (select contact_id
from contact where username='Dave'), 14000000),
((select deal_id from deal where name='1234 Office Bldg'), (select contact_id
from contact where username='Jim'), 14000000),
((select deal_id from deal where name='1234 Office Bldg'), (select contact_id
from contact where username='Chevy'), 14000000),
((select deal_id from deal where name='1234 Office Bldg'), (select contact_id
from contact where username='Steve'), 14000000),
((select deal_id from deal where name='1234 Office Bldg'), (select contact_id
from contact where username='George'), 14000000);
go
```

```
select * from quote;
```

```
update quote set is_winning_quote = 1 where deal_id=(select deal_id from
deal where name='1234 FIELDHOUSE') and contact_id = (select contact_id
from contact where username='Chevy');
go
```

```
update quote set is_winning_quote = 1 where deal_id=(select deal_id from
deal where name='1234 Apartment Bldg') and contact_id = (select contact_id
from contact where username='Jim');
go
```

```
update quote set is_winning_quote = 1 where deal_id=(select deal_id from
deal where name='1234 Office Space') and contact_id = (select contact_id from
contact where username='Jim');
go
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
update quote set is_winning_quote = 1 where deal_id=(select deal_id from
deal where name='1234 Office Bldg') and contact_id = (select contact_id from
contact where username='Eddie');
go
```

```
-- select and update queries
select o.name, first_name, last_name, ot.name
from contact c
left join organization o on o.organization_id = c.organization_id
left join organization_type ot on o.organization_type_id =
ot.organization_type_id
where ot.name = 'lender';
```

```
select d.name, amount, fee,c.city, s.state,p.name
from deal d
left join deal_status ds on ds.deal_status_id = d.deal_status_id
left join city c on c.city_id = d.city_id
left join state s on s.state_id = d.state_id
left join property_type p on p.property_type_id = d.property_type_id
where ds.name = 'active';
go
```

```
update deal set deal_status_id = (select deal_status_id from deal_status where
name = 'closed')
where name='1234 FIELDHOUSE';
go
```

```
select d.name, amount, fee,c.city, s.state,p.name
from deal d
left join deal_status ds on ds.deal_status_id = d.deal_status_id
left join city c on c.city_id = d.city_id
left join state s on s.state_id = d.state_id
left join property_type p on p.property_type_id = d.property_type_id
where ds.name = 'active';
```


CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

go

```
select 'Closed' as Name, sum(amount) total_closed
from deal d
left join deal_status ds on ds.deal_status_id = d.deal_status_id
left join city c on c.city_id = d.city_id
left join state s on s.state_id = d.state_id
left join property_type p on p.property_type_id = d.property_type_id
where ds.name = 'closed'
```

```
select o.name, c.first_name, c.last_name, avg(d.amount) as amount_average
from deal d
left join quote q on q.deal_id = d.deal_id
left join contact c on c.contact_id = q.contact_id
left join organization o on o.organization_id = c.organization_id
where o.name is not null
and year(d.date_active)='2019' group by o.name, c.first_name, c.last_name;
```

```
-- 5 questions
select top 5 o.name, c.first_name, c.last_name, avg(fee) as fee_average
from deal d
left join quote q on q.deal_id = d.deal_id
left join contact c on c.contact_id = q.contact_id
left join organization o on o.organization_id = c.organization_id
where o.name is not null
and year(d.date_active)='2019'
group by o.name, c.first_name, c.last_name;
go
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
select o.name as 'Name', c.first_name as 'First Name', c.last_name as 'Last Name', avg(d.amount) as 'Average Amount'
from deal d
left join quote q on q.deal_id = d.deal_id
left join contact c on c.contact_id = q.contact_id
left join organization o on o.organization_id = c.organization_id
where o.name is not null
and year(d.date_active)='2019' group by o.name, c.first_name, c.last_name;
go
```

```
select p.name, avg(fee) 'Average Fee'
from deal d
left join deal_status ds on ds.deal_status_id = d.deal_status_id
left join city c on c.city_id = d.city_id
left join state s on s.state_id = d.state_id
left join property_type p on p.property_type_id = d.property_type_id
where year(d.date_active)='2019'
group by p.name
```

```
select top 5 o.name as 'Name', c.first_name as 'First Name', c.last_name as 'Last Name',
p.name, avg(fee) 'Average Fee', avg(d.amount) as 'Average Fee'
from deal d
left join quote q on q.deal_id = d.deal_id
left join contact c on c.contact_id = q.contact_id
left join organization o on o.organization_id = c.organization_id
left join property_type p on p.property_type_id = d.property_type_id
where o.name is not null
and year(d.date_active)='2019' group by o.name, c.first_name,
c.last_name, p.name;
go
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
select o.name as 'Broker', og.first_name as 'Originator First', og.last_name as  
'Originator Last',  
anl.first_name as 'Analyst First', anl.last_name as 'Analyst Last',  
p.name as 'Property Type', avg(fee) 'Avg Fee', avg(d.amount) as 'Avg Amount'  
from deal d  
left join contact anl on anl.contact_id = d.analyst_id  
left join contact og on og.contact_id = d.originator_id  
left join organization o on o.organization_id = og.organization_id  
left join property_type p on p.property_type_id = d.property_type_id  
where o.name is not null  
and year(d.date_active)='2019' group by o.name, anl.first_name,  
anl.last_name, og.first_name, og.last_name, p.name;  
go
```

R Code – 5 QUESTIONS

```
require(RODBC)  
myconn <- odbcConnect("odbc64")  
  
SqlSelectStatement <-  
"select o.name, c.first_name, c.last_name, avg(d.fee)/100 as 'Average Fee'  
from deal d  
left join quote q on q.deal_id = d.deal_id  
left join contact c on c.contact_id = q.contact_id"
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
left join organization o on o.organization_id = c.organization_id
  where o.name is not null
and year(d.date_active)='2019'
group by o.name, c.first_name, c.last_name order by avg(d.fee) desc;
"
```

```
avgResult <- sqlQuery(myconn,SqlSelectStatement)
avgResult
```

```
barplot(avgResult$`Average Fee`,
  main="Histogram for Average Fee By Lender",
  xlab="Lender",
  ylab="Average fEE",
  border="blue",
  names.arg = avgResult$name
)
```

```
SqlSelectStatement <-
  "select o.name as 'Name', c.first_name as 'First Name', c.last_name as 'Last Name', avg(d.amount)/100
as 'Average Amount'
from deal d
left join quote q on q.deal_id = d.deal_id
left join contact c on c.contact_id = q.contact_id
left join organization o on o.organization_id = c.organization_id
where o.name is not null
and year(d.date_active)='2019' group by o.name, c.first_name, c.last_name order by avg(d.amount)
desc;"
```

```
avgAmount <- sqlQuery(myconn,SqlSelectStatement)
avgAmount
```

```
barplot(avgAmount$`Average Amount`,
  main="Histogram for Average Amount By Lender",
  xlab="Lender",
  ylab="Average Amount",
  border="blue",
  names.arg = avgAmount$Name
)
```

```
SqlSelectStatement <-
  "select p.name,avg(fee)/100 'Average Fee'
from deal d
left join deal_status ds on ds.deal_status_id = d.deal_status_id
left join city c on c.city_id = d.city_id
left join state s on s.state_id = d.state_id
left join property_type p on p.property_type_id = d.property_type_id
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
where year(d.date_active)='2019'  
group by p.name order by avg(fee) desc  
"
```

```
avgPropertyResult <- sqlQuery(myconn,SqlSelectStatement)  
avgPropertyResult
```

```
barplot(avgPropertyResult$`Average Fee`,  
  main="Histogram for Average Fee By Property Type",  
  xlab="Property Type",  
  ylab="Average Fee",  
  border="blue",  
  names.arg = avgPropertyResult$name  
)
```

```
SqlSelectStatement <-  
  "select o.name as 'Name', c.first_name as 'First Name', c.last_name as 'Last Name',  
  p.name,avg(fee) 'Average Fee', avg(d.amount) as 'Average Amount'  
  from deal d  
  left join quote q on q.deal_id = d.deal_id  
  left join contact c on c.contact_id = q.contact_id  
  left join organization o on o.organization_id = c.organization_id  
  left join property_type p on p.property_type_id = d.property_type_id  
  where o.name is not null  
  and year(d.date_active)='2019' group by o.name, c.first_name, c.last_name,p.name order by  
  avg(fee),avg(d.amount) desc;"
```

```
avgLenderPropertyResult <- sqlQuery(myconn,SqlSelectStatement)  
avgLenderPropertyResult
```

```
SqlSelectStatement <-  
  "select top 5 o.name as 'Broker', og.first_name as 'Originator First', og.last_name as 'Originator Last',  
  anl.first_name as 'Analyst First', anl.last_name as 'Analyst Last',  
  p.name as 'Property Type',avg(fee) 'Avg Fee', avg(d.amount) as 'Avg Amount'  
  from deal d  
  left join contact anl on anl.contact_id = d.analyst_id  
  left join contact og on og.contact_id = d.originator_id  
  left join organization o on o.organization_id = og.organization_id  
  left join property_type p on p.property_type_id = d.property_type_id  
  where o.name is not null  
  and year(d.date_active)='2019' group by o.name,anl.first_name, anl.last_name, og.first_name,  
  og.last_name,p.name;"
```

```
teamPropertyResult <- sqlQuery(myconn,SqlSelectStatement)  
teamPropertyResult
```

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

Data Questions Output:

Lender/Investors (L/I):

1. Who are my top 5 for 2019 and property type
2. What is my average fee per L/I for a given time period

Deals:

1. How many closed deals as (company or individual) do I have for 2019(quarter/years)?
2. Who are my top producers and account teams for a property type or time frame?
3. Which property types are most profitable (based upon fee)?

1. WHO ARE THE TOP 5 ACCOUNT TEAM FOR 2019?

```
> sqlSelectStatement <-  
+ "select top 5 o.name as 'Broker', og.first_name as 'Originator First', og.last_name as 'Originator Last',  
+ anl.first_name as 'Analyst First', anl.last_name as 'Analyst Last',  
+ p.name as 'Property Type',avg(fee) 'Avg Fee', avg(d.amount) as 'Avg Amount'  
+ from deal d  
+ left join contact anl on anl.contact_id = d.analyst_id  
+ left join contact og on og.contact_id = d.originator_id  
+ left join organization o on o.organization_id = og.organization_id  
+ left join property_type p on p.property_type_id = d.property_type_id  
+ where o.name is not null  
+ and year(d.date_active)='2019' group by o.name,anl.first_name, anl.last_name, og.first_name, og.last_name,p.name;"  
>  
> teamPropertyResult <- sqlQuery(myconn,sqlSelectStatement)  
> teamPropertyResult
```

	Broker	Originator First	Originator Last	Analyst First	Analyst Last	Property Type	Avg Fee	Avg Amount
1	Real Estate Advisors, Inc.	Clinton	Hillary	Chelsea	Clinton	MultiFamily	56533	1183333
2	Real Estate Advisors, Inc.	Clinton	Hillary	Chelsea	Clinton	Office	102200	3985000
3	Real Estate Advisors, Inc.	Clinton	Hillary	Chelsea	Clinton	Retail	13200	5400000
4	Real Estate Advisors, Inc.	Clinton	Hillary	Clinton	Hillary	MultiFamily	82700	236000
5	Real Estate Advisors, Inc.	Clinton	Hillary	Clinton	Hillary	Office	1143200	14000000

2. Who ARE THE TOP LENDERS BY PROPERTY AND FEE FOR 2019?

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
> SqlSelectStatement <-
+ "select o.name as 'Name', c.first_name as 'First Name', c.last_name as 'Last Name',
+ p.name,avg(fee) 'Average Fee', avg(d.amount) as 'Average Amount'
+ from deal d
+ left join quote q on q.deal_id = d.deal_id
+ left join contact c on c.contact_id = q.contact_id
+ left join organization o on o.organization_id = c.organization_id
+ left join property_type p on p.property_type_id = d.property_type_id
+ where o.name is not null
+ and year(d.date_active)='2019' group by o.name, c.first_name, c.last_name,p.name order by avg(fee),avg(d.amount) desc;"
>
> avgLenderPropertyResult <- sqlQuery(myconn,SqlSelectStatement)
> avgLenderPropertyResult
```

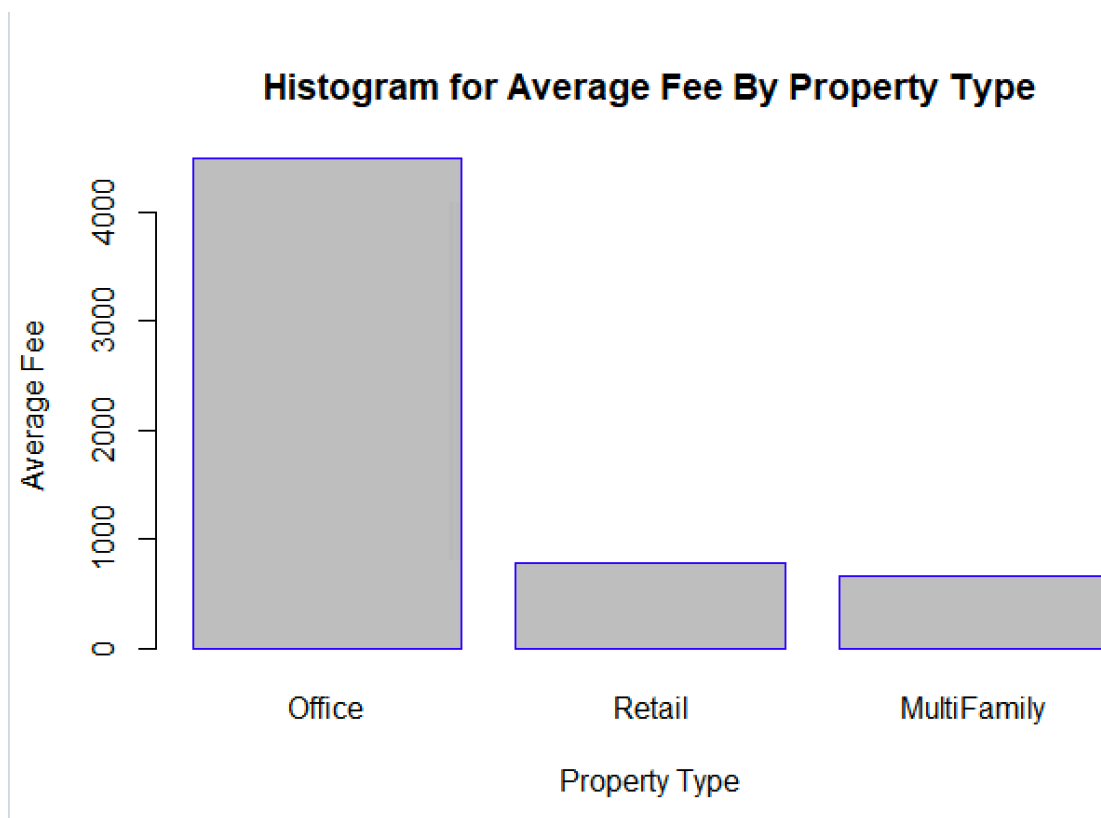
	Name	First Name	Last Name	name	Average Fee	Average Amount
1	Financial Group	Dave	Chappelle	Retail	13200	5400000
2	REIT Investment Trust	Jim	Carrey	Retail	13200	5400000
3	Star Bank	Chevy	Chase	Retail	13200	5400000
4	Liberty Bank	Eddie	Murphy	MultiFamily	53200	3200000
5	REIT Investment Trust	Jim	Carrey	MultiFamily	53200	3200000
6	Financial Group	Dave	Chappelle	MultiFamily	53200	3200000
7	REIT Investment Trust	Jim	Carrey	office	627200	7175000
8	Star Bank	Chevy	Chase	office	627200	7175000
9	River Capital	George	Bush	office	1143200	14000000
10	Financial Group	Dave	Chappelle	office	1143200	14000000
11	Global Markets, Inc.	Steven	Allen	office	1143200	14000000

```
> |
```

3. What is the average fee by Property Type for 2019?

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

```
> sqlSelectStatement <-  
+ "select p.name,avg(fee) 'Average Fee'  
+ from deal d  
+ left join deal_status ds on ds.deal_status_id = d.deal_status_id  
+ left join city c on c.city_id = d.city_id  
+ left join state s on s.state_id = d.state_id  
+ left join property_type p on p.property_type_id = d.property_type_id  
+ where year(d.date_active)='2019'  
+ group by p.name order by avg(fee) desc  
+ "  
>  
> avgPropertyResult <- sqlQuery(myconn,sqlSelectStatement)  
> avgPropertyResult  
      name Average Fee  
1      office      449200  
2      Retail       78200  
3 MultiFamily      67000
```

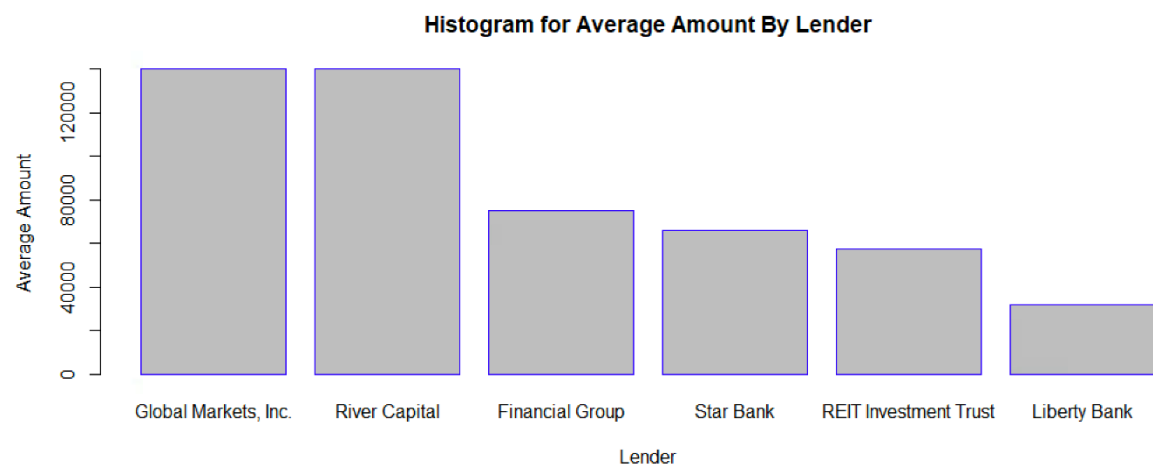


CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

4. What is the Average Amount A lender will quote for 2019?

```
> sqlSelectStatement <-
+ "select o.name as 'Name', c.first_name as 'First Name', c.last_name as 'Last Name', avg(d.amount) as 'Average Amount'
+ from deal d
+ left join quote q on q.deal_id = d.deal_id
+ left join contact c on c.contact_id = q.contact_id
+ left join organization o on o.organization_id = c.organization_id
+ where o.name is not null
+ and year(d.date_active)='2019' group by o.name, c.first_name, c.last_name order by avg(d.amount) desc;"
>
> avgAmount <- sqlQuery(myconn,sqlSelectStatement)
> avgAmount
```

	Name	First Name	Last Name	Average Amount
1	Global Markets, Inc.	Steven	Allen	14000000
2	River Capital	George	Bush	14000000
3	Financial Group	Dave	Chappelle	7533333
4	Star Bank	Chevy	Chase	6583333
5	REIT Investment Trust	Jim	Carrey	5737500
6	Liberty Bank	Eddie	Murphy	3200000

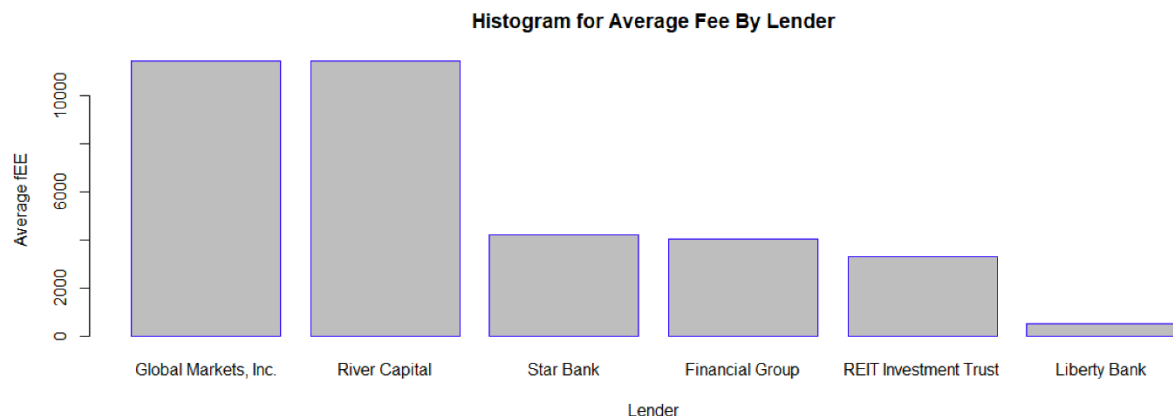


CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

5. What is the average fee by lender for 2019?

```
> sqlselectstatement <-
+ "select o.name, c.first_name, c.last_name, avg(d.fee) as fee_average
+ from deal d
+ left join quote q on q.deal_id = d.deal_id
+ left join contact c on c.contact_id = q.contact_id
+ left join organization o on o.organization_id = c.organization_id
+ where o.name is not null
+ and year(d.date_active)='2019'
+ group by o.name, c.first_name, c.last_name order by avg(d.fee) desc;
+ "
>
> avgResult <- sqlQuery(myconn,sqlselectstatement)
> avgResult
```

	name	first_name	last_name	fee_average
1	Global Markets, Inc.	Steven	Allen	1143200
2	River Capital	George	Bush	1143200
3	Star Bank	Chevy	Chase	422533
4	Financial Group	Dave	Chappelle	403200
5	REIT Investment Trust	Jim	Carrey	330200
6	Liberty Bank	Eddie	Murphy	53200



CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

Implementation

Add Deal Screen:

Add an account:	
Name:	1234 FIELDHOUSE
Deal Status:	--NONE--
Property Type:	--NONE--
Originator:	--NONE--
Analyst:	--NONE--
Borrower:	--NONE--
City :	--NONE--
State :	--NONE--

Requested Terms:	
Closing Date:	
Accepted Date:	
Amount :	
Fee :	

Lenders (list)

☒ Show / ☐ Hide all details

Company	Type
<input checked="" type="checkbox"/>	
ADD NAME	Company
<input type="checkbox"/> Chevy Chase	Liberty Bank
<input type="checkbox"/> Eddie Murphy	Star Bank

FINANCE NOW	RESET
-------------	-------

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

Add Quote Screen:

Loan Information:	Please enter the information for your soft quote
Contact:	Eddie Murphy ▾
Loan amount:	15150000
<div><div>SUBMIT</div><div>RESET</div></div>	

Reflection:

My initial project outline was much more involved. It required a large number of joins and while doable it easily become confusion. I spent way too much time focusing on normalization the database and building too large a dataset. If I were to do it over, I would look to simplify from the outset and layer on top of that.

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

Data Glossary:

2. Tables

2.1. Table bridge_deal_contact

Description:bridge table used to store the many to many relationships between the deal and contact tables

2.1.1. Columns

Column name	Type	Properties	Description
deal_contact_id	int	PK	PK for this bridge table
contact_id	int	null	FK to the contact table
role_id	int	null	fk to the role lookup table. this specifies the role the contact will play in the deal transactions
deal_id	int	null	FK to the deal table
date_created	date	null	date record was added to the table

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

date_modified	date	null	date the record was last changed
is_active	int	null	flag to determine if this record is still active. also used for historical purposes

2.2. Table country

Description:lookup table for the country

2.2.1. Columns

Column name	Type	Properties	Description
country_id	int	PK	PK for the table
name	varchar(50)		name of the country

2.3. Table property_type

Description:lookup table for the property types used in the system. will be used across the diff accounts

2.3.1. Columns

Column name	Type	Properties	Description
property_type_id	int	PK	PK for this table
name	varchar(30)		property type name

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

2.4. Table organization

Description:table used to store the organization or company a contact belongs to

2.4.1. Columns

Column name	Type	Properties	Description
organization_id	int	PK	primary key
name	varchar(50)		name of the organization
organization_type_id	int		FK to the organization type lookup table
city_id	int	null	FK to the city lookup table
address	varchar(50)		organization mailing address
state_id	int		FK to the state lookup table
organization_type_organization_type_id	int		

2.6. Table quote

Description:table used to link the lenders and investors response to a deal. If they like the deal they will quote. If not they will pass

2.6.1. Columns

Column name	Type	Properties	Description
quote_id	int	PK	PK for the table

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

deal_id	int		FK to the deal. used to link a deal to a quote
amount	int	null	the amount the contact is willing to quote. this should default to 0

2.7. Table states

Description:lookup table for a state or province

2.7.1. Columns

Column name	Type	Properties	Description
state_id	int	PK	PK for the table
name	varchar(100)		State Name

2.9. Table city

Description:lookup table for the city

2.9.1. Columns

Column name	Type	Properties	Description
city_id	int	PK	PK for the table

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

name	varchar(100)		Name of the city
------	--------------	--	------------------

2.10. Table deal

Description:Primary deals table. Primary Key deal_id

2.10.1. Columns

Column name	Type	Properties	Description
deal_id	int	PK	pK for deal table
deal_name	varchar(50)	null	name assigned to the deal
amount	int	null	
fee	int	null	the fee or profit the broker will charge to manage the deal
deal_status_id	int	null	FK to the deal status lookup table
date_modified	datetime	null	date when this record was last changed
date_updated	datetime	null	date when this record was last changed
zip	int		deal zip code

2.16. Table deal_status

Description:look up table for the status of the deal

2.16.1. Columns

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

Column name	Type	Properties	Description
deal_status_id	int	PK	PK for the table
name	varchar(50)		deal status name

2.17. Table contact

Description:table will store all system users.

2.17.1. Columns

Column name	Type	Properties	Description
contact_id	int	PK	
first_name	varchar(50)		contact first name
last_name	varchar(50)		contact last name
username	varchar(50)	null	contact username used to log into the system
password	varchar(50)	null	the password used to log into the system. Would be good if this was bcrpted
email	varchar(50)	null	contact email address
organization_id	int		Foreign Key to the organization table. Used to identify the organization/company the contact belongs to

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)**2.18. Table account**

Description:the table that specifies which organization controls the system being used

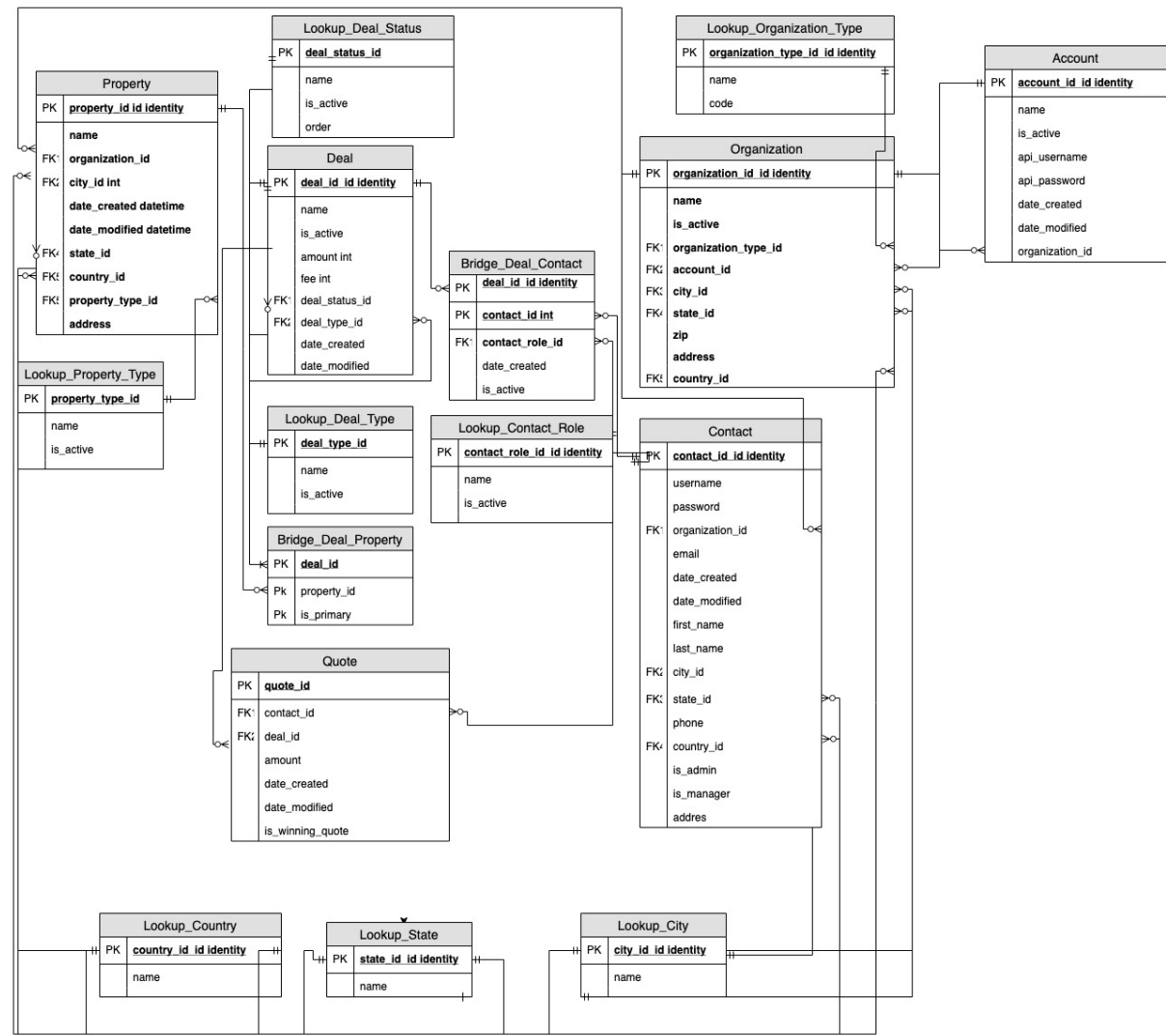
2.18.1. Columns

Column name	Type	Properties	Description
account_id	int	PK	PK for the account table. used as an FK in other tables
name	varchar(50)		account name
is_active	int		flag to determine if the account is active or not. 1 active 0: inactive
api_username	varchar(50)	null	api username to access the data via application program interface
api_password	varchar(50)	null	api password to access the data via the application program interface
date_created	datetime	null	date record added
date_modified	datetime		date record modified
organization_id	int	null	FK to the organization table. the organization this account was set up for

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

Conceptual Models

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)



Logical Model

CREDIT (COMMERCIAL REAL ESTATE DEAL INFORMATION TRACKER)

