Group 8:

agencyone

AgencyOne

Jiajie Xu
Xun Cui
Miguel Gonzalez
Truc Phan

I. SQL Queries:

1, Performance of all branches over the past years.

This query shows branches name, branches region and their total sales, rank from the highest to the lowest.

```
SELECT
    br.BranchName, br.BranchRegion, SUM(t.SalesPrice) TotalSales
FROM
    Branch br,
    Agents a,
    Seller s,
    Transactions t
WHERE
    br.BranchID = a.BranchID
        AND a.AgentID = s.AgentID
        AND s.SellerID = t.SellerID
GROUP BY br.BranchName , br.BranchRegion
ORDER BY TotalSales DESC;
```

Output Data:

BranchName	BranchRegion	TotalSales
Ren	Renton	21561180
Bel	Bellevue	18316700
Red	Redmond	14093340
Sea	Seattle	12351774
Bot	Bothell	3383185

2, Evaluate the performance of all agents by the number of transactions

This query shows the agent's first and last name who has more than 2 transactions, ranks from the highest.

```
SELECT
    a.AgentID,
    a.AgentFirstName,
    a.AgentsLastName,
    COUNT(t.TransactionID) NumberofSales
FROM
    Agents a,
    Transactions t,
    Seller s
WHERE
    a.AgentID = s.AgentID
        AND s.SellerID = t.SellerID
GROUP BY a.AgentID , a.AgentFirstName , a.AgentsLastName
HAVING COUNT(NumberofSales) > 2
ORDER BY NumberofSales DESC;
```

Output:

AgentID	AgentFirstName	AgentsLastName	NumberofSales
9	Justin	Lee	12
2	Miguel	Tennyson	7
3	Crystal	Xu	6
6	Renato	Nguyen	5
13	Siqi	Ham	5
1	April	Setio	4
7	Freeland	Phan	4
4	Jenna	Yang	3
12	Cici	Fardi	3
14	Chenyi	Ko	3

3, Overview the buyers who purchase the specific property.

This query shows the latest buyers who purchased townhouses, and shows the transaction price and date.

```
SELECT
    b.BuyerFirstName,
    b.BuyerLastName,
    t.SalesPrice,
    t.TransactionDate
FROM
    Buyer b,
    Transactions t,
    Property p
WHERE
    b.BuyerID = t.BuyerID
        AND t.PropertyID = p.PropertyID
        AND p.PropertyType = 'Townhouse';
```

Output:

BuyerFirstName	BuyerLastName	SalesPrice	TransactionDate
Michael	Jackson	587759	2020-05-20
Gladys	Yurus	850188	2020-03-03
Michael	Richards	387753	2020-02-14
Michael	Jackson	430019	2019-08-02
Michael	Richards	1971901	2019-04-19
Lexi	Bush	1010094	2019-01-16
Gladys	Yurus	1208801	2018-12-27
Sue	Lee	303972	2018-05-16
Lexi	Bush	1239096	2018-03-26
Gladys	Yurus	1555188	2018-01-01
Roger	Nixon	1429628	2017-10-17
Luis	Rodriguez	1390000	2017-10-17
Lucas	Toro	487234	2017-03-20
Michael	Richards	747103	2017-03-20

4, Overview the active marketing campaign

This query shows the marketing campaign name that was chosen more than 3 times. As you can see here, all listings have an even distributed amount of campaigns for their property listings.

```
SELECT
    m.CampaignID,
    m.CampaignName,
    COUNT(l.CampaignID) CountofCampaign
FROM
    MarketingChannel m,
    Listings l
WHERE
    m.CampaignID = l.CampaignID
GROUP BY l.CampaignID
HAVING CountofCampaign > 3;
```

Output:

CampaignID	CampaignName	CountofCampaign
1	Go For it	5
2	Best Time	5
3	Good to Know	5
4	Fighting	5
5	Green Property	5
6	Keep it up	5

5, Overview the active marketing campaign

This query shows all the properties that have been sold with the campaign 'Go For it'.

```
SELECT
    p.PropertyType, t.SalesPrice, l.Status, m.CampaignName
FROM
    Transactions t,
    Listings l,
    Property p,
    MarketingChannel m
WHERE
    t.PropertyID = p.PropertyID
        AND p.PropertyID = l.PropertyID
        AND l.CampaignID = m.CampaignID
        AND l.Status = 'Inactive'
        AND m.CampaignName = 'Go for it';
```

Output:

PropertyType	SalesPrice	Status	CampaignName
Condominium	1024629	Inactive	Go For it
Townhouse	1208801	Inactive	Go For it
Townhouse	747103	Inactive	Go For it
Townhouse	1429628	Inactive	Go For it

6, Overview the in-active buyers by 2 buyers

This query shows a list of agents that have 2 buyers or less.

```
SELECT
    a.AgentFirstName, a.AgentsLastName
FROM
    Agents a,
    Buyer b
WHERE
    a.AgentID = b.AgentID
GROUP BY a.AgentID
HAVING COUNT(b.BuyerID) <= 2;
```

Output:

AgentFirstName	AgentsLastName
April	Setio
Miguel	Tennyson
Crystal	Xu
Jenna	Yang
Renato	Nguyen
Freeland	Phan
Gloria	Pricila
Justin	Lee
Cici	Fardi
Jodie	Albolea

7, Present information of sellers with specific characteristic

This query shows a list of sellers that have more than one property.

```
SELECT
    s.SellerID,
    s.SellerFirstName,
    s.SellerLastName,
    COUNT(p.PropertyID) AS NumberOfProperties
FROM
    Seller s,
    Property p
WHERE
    s.SellerID = p.SellerID
GROUP BY s.SellerID
HAVING COUNT(p.PropertyID) > 1;
```

Output:

SellerID	SellerFirstName	SellerLastName	NumberOfProperties
6	Obidiah	Rafaelia	4
10	Samantha	Morrie	2
13	Cori	Emmery	2
15	Bellina	Addy	2
19	Emmalynne	Ev	2

8, Detailed information of sold houses associated with marketing

This query shows the average price of sold houses on listings for each advertisement type. Branches or agents can decide to use which advertising type according to the following results.

```
SELECT
    m.AdID, a.AdType, ROUND(AVG(l.price), 2) AvgListingPrice
FROM
    Listings l,
    MarketingChannel m,
    Advertisement a
WHERE
    l.CampaignID = m.CampaignID
        AND m.AdID = a.AdID
        AND l.Status = 'Inactive'
GROUP BY m.AdID
ORDER BY AvgListingPrice DESC;
```

Output:

AdID	AdType	AvgListingPrice
1	Newspaper	1401861.6
4	Social Media	1002180
2	Website	921929
3	Poster	903199.5
5	Road Show	653174

9, Overview the information of sellers who sell specific property.

This query shows a list of sellers first and last names that sell 2-bedroom condominiums.

```
SELECT
    s.SellerFirstName, s.SellerLastName, p.PropertyType
FROM
    Seller s,
    Property p
WHERE
    s.SellerID = p.SellerID
        AND p.PropertyType = 'Condominium'
        AND p.Bedrooms = 2;
```

Output:

SellerFirstName	SellerLastName	PropertyType
Marylou	Georgeanna	Condominium
Obidiah	Rafaelia	Condominium
Fin	Adolph	Condominium
Boyd	Dorine	Condominium

10, Presents the characteristics of specific property

This query shows a list of properties whose sqft is larger than 800, has at least 2 bedrooms, at least 2 bathrooms, sales price less or equal to $700,000 and the year of renovation no later than 2019.

```
SELECT
    p.PropertyID, p.Sqft, t.SalesPrice, t.TransactionDate
FROM
    Property p,
    Transactions t
WHERE
    t.PropertyID = p.PropertyID
        AND p.sqft > 800
        AND Bedrooms >= 2
        AND Bathrooms >= 2
        AND t.SalesPrice <= 700000
        AND p.YearRennovated >= 2019;
```

Output：

PropertyID	Sqft	SalesPrice	TransactionDate
4	1690	587759	5/20/2020
10	1500	487234	3/20/2017
16	2333	487228	3/4/2020
22	1006	588912	1/2/2020
23	1702	436646	6/19/2018

11, Highest Transaction with different branches

This query shows the highest transaction that each branch has. Branches and agents can
take references from the following information when doing future transactions.

```
SELECT
    br.BranchRegion, MAX(t.SalesPrice) HighestSale
FROM
    Branch br,
    Agents a,
    Seller s,
    Transactions t,
    Property p
WHERE
    br.BranchID = a.BranchID
        AND a.AgentID = s.AgentID
        AND s.SellerID = t.SellerID
        AND t.PropertyID = p.PropertyID
GROUP BY br.BranchRegion;
```

Output:

BranchRegion	HighestSale
Seattle	1768908
Bellevue	1870628
Redmond	1971901
Renton	1995099
Bothell	1239096

12, Evaluate the pricing information of properties over years.

This query shows the average sales price of properties based on the year built after 1980. Buyers and sellers can take it for reference when getting involved in the transaction.

```
SELECT
    p.YearBuilt, ROUND(AVG(t.SalesPrice), 2) AvgSalesPrice
FROM
    Transactions t,
    Property p
WHERE
    t.PropertyID = p.PropertyID
        AND p.YearBuilt > 1980
GROUP BY p.YearBuilt
ORDER BY p.YearBuilt ASC;
```

Output:

YearBuilt	AvgSalesPrice
1990	1076972
1991	1024629
1992	1150998
1993	615581.5
1995	1391300
1999	1202213

II. Stored Procedures

1.What's the latest view on transactions over a specific amount?

Calling the latest transactions and setting the minimum amount. This enables the user to know the transactions that have been completed over a specific amount, ranking from latest to oldest.

Delimiter //
CREATE PROCEDURE LatestPrice(
    IN input1 int
)
BEGIN
Select t.TransactionID, t.SalesPrice, t.TransactionDate
FROM Transactions t
Where t.SalesPrice >= input1
Order by t.TransactionID desc;
END
//
Delimiter ;

Example: To display the latest transactions over $1,900,000

Call LatestPrice(1900000)

Output:

TransactionID	SalesPrice	TransactionDate
54	1956582	2017-12-01
40	1971901	2019-04-19
2	1995099	2017-10-17

2. What is the Status of Marketing Campaigns?

This stored procedure allows the user to know how many marketing campaigns are active and inactive for a specific Campaign Name.

Delimiter //

Create procedure Channels(

In input1 VARCHAR(50)

)

BEGIN

SELECT

m.CampaignName,

Count(*) AS Total,

Count(IF(l.Status='Inactive',1, NULL)) AS Inactive,

Count(IF(l.Status='Active',1, NULL)) AS Active

From Listings l, MarketingChannel m

Where l.CampaignID = m.CampaignID

AND m.CampaignName = input1

Group BY m.CampaignName;

END
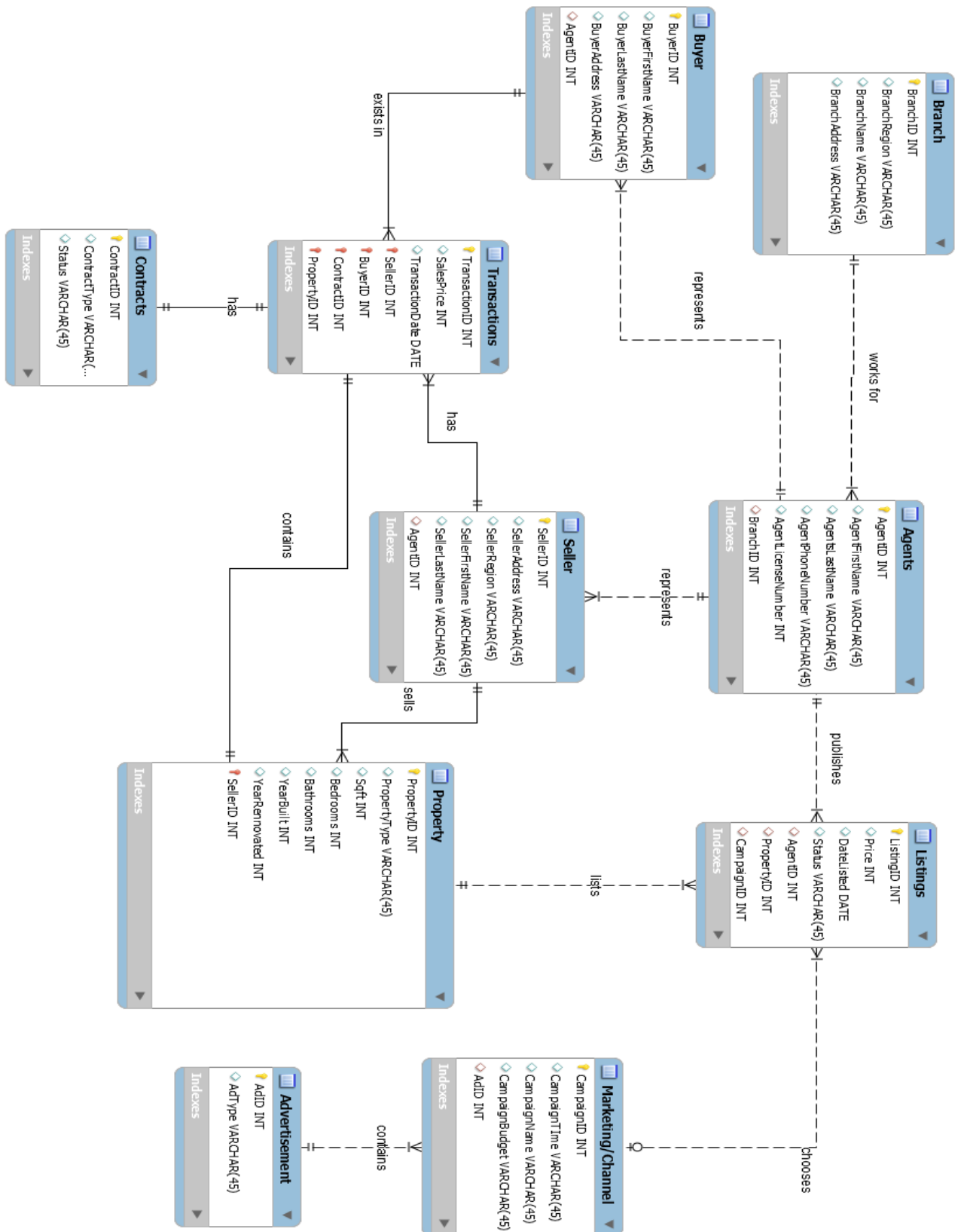
//

Delimiter ;

Example: Calling the status of the Marketing Campaign called " Go For It "

Call Channels("Go For It")

Output:

CampaignName	Total	Active	Inactive
Go For It	5	2	3

III. ER Diagram

IV. Business Rules

Agency-One Overview
Project management provides an efficient way for real estate agencies to manage their existing properties in order to assist home buyers in finding the ideal house based on the property characteristics they want.

Branches (Organizations)
Each real estate branch has their own users, projects, and clients. Each branch can have one or more administrators who can add and remove users, contracts and payroll based on their particular needs as a company. Branches can only access the information about status of properties, deliverables, and users related to their organization.

Common Users
Users can have many roles in the organization, as a user might be a branch lead and a user. Any agent that is included in contacts to a client should also be listed as an employee so that their information can be posted on it.

Technician Users
When a technician is done with his work and closes a checklist, this information has to be transferred to ERP systems or other clients in a readable form for any application.

Agents
Each real estate agent must hold a license by the housing authority. Each real estate agent must update the license by proof required. Applicants for renewal of a firm license shall furnish proof of current master business license renewed by authority of the secretary of state. Always propose and sign an agency agreement with buyers. By law, agents are required to give buyers an agency disclosure. This document varies across state lines.

Clients （Sellers + Buyers）
A client may have multiple choices of property, but each of these properties should be based on scopes of work outlined in individual real estate contracts or purchase agreement. The client will be billed based on contracts associated with the final real estate contracts.

Sellers

Each housing seller needs to keep his emotions in check and stay focused on the business aspect of selling his home at the first step. Hiring an agent can be considered. Hiring an agent may cost more in commission, but it can take a lot of the guesswork out of selling. If the seller decides to sell on his own, set a reasonable sale price and keep the time of year in mind. Prepare for the sale, don't skimp on the visuals in the buyer listing, and disclose any issues with the property.

Buyers

Before purchasing the property, each buyer needs to clarify his/her requirement, which means the buyer needs to investigate the property itself and the general environment first. In addition, the buyer should evaluate the ability to manage particular property and examine the financial aspect. Home buyers need to know agents work for commision, and agents are not public servants and do not work for free. Do not ask an agent to work for you if the buyer intends to cut the agent out of your deal. Importantly, keep in mind, listing agents work for the sellers, not the buyers. If the buyer hires the listing agent to represent him, that agent will now be working under a dual agency. Conflicts of interest may occur.

Marketers

Sales and marketing must agree on which demographic attributes and behavior activity need to be included on prospect records. Sales must share the realities and insights they learn from buyers with marketing on a regular basis. Data is the blessing and the curse of marketing automation, and closing the loop on everything you do is necessary for analytics and tracking.

Contracts

A purchase and sale agreement/contract protects the rights for both the buyer and seller. Each real estate contract meets several requirements to be valid: A valid home purchase agreement must be in writing. The contract must contain an offer and an acceptance. The purpose of the agreement must be legal. There must be an exchange of things of value (usually, it's money for property).