CS480 – Course project

Summer 2021

Database: property_tracker

Description:

Each property has a offering memorandum, each of which has a unique **property id**, address, city, state, and listing date. The offering memorandum has so much valuable information about the property. In order to make detailed database, properties are separated into two categories one being **commercial** and other **residential**. Many different types of properties fall into commercial and residential. To keep the track of properties currently in the market, broker's name, phone, and email is recorded in order to contact them for property related information. The database will contain deep report for each category which includes property information and financial information. Property information contains square feet, price per foot, lot size, year built, and building class. Financial information contains price of the property, cap rate, and net operating income. Each property will have at least one report, but it can have more than one report depending on the changes that may occur in the property over some time.

Part 2 – CRUD (Create, read, update, and delete)

Deadline: July 17, 2021

List of strong entities:

1. property
2. commercial
3. residential

List of weak entities:

1. address
2. city
3. state
4. listing_date
5. broker's_name
6. broker's_phone
7. broker's_email
8. square_feet
9. price
10. price_per_foot
11. lot_size
12. year_built
13. building_class
14. cap_rate
15. net_operating_income

We will implement the following functionality using Java and SQL with necessary GUI interfaces.

1. Insert/delete/update/read a **property** (all attributes except the property id). The property id should be generated by the system automatically using MySQL autoincrement.
2. Insert/delete/update/read a **commercial** (all attributes except the commercial id). The commercial id should be generated by the system automatically using MySQL autoincrement.
3. Insert/delete/update/read a **address** (all attributes except the address id). The address id should be generated by the system automatically using MySQL autoincrement.

Part 3 – Queries

Deadline: July 31, 2021

Based on the Demo, we will implement the following functionality using Java and SQL with necessary GUI interfaces.

Trivial Queries:

1. List all properties
2. List all commercial properties
3. List all residential properties

Non-trivial Queries:

1. List all the brokers by their last name and the properties (can be more than one property) they are selling.
2. List all the properties that have building class ‘A’ but price per foot is less than the average price per foot.
3. List all the properties that has price per foot less than the average price per foot of all the properties combined in the record in particular city.
4. List all the properties that has cap rate greater than the average cap rate of all the properties combined in the record in particular city.
5. A property is considered to be “good” if the price per foot and cap rate is lower than the average of all the properties. Define a VIEW called good_properties and then display the properties.