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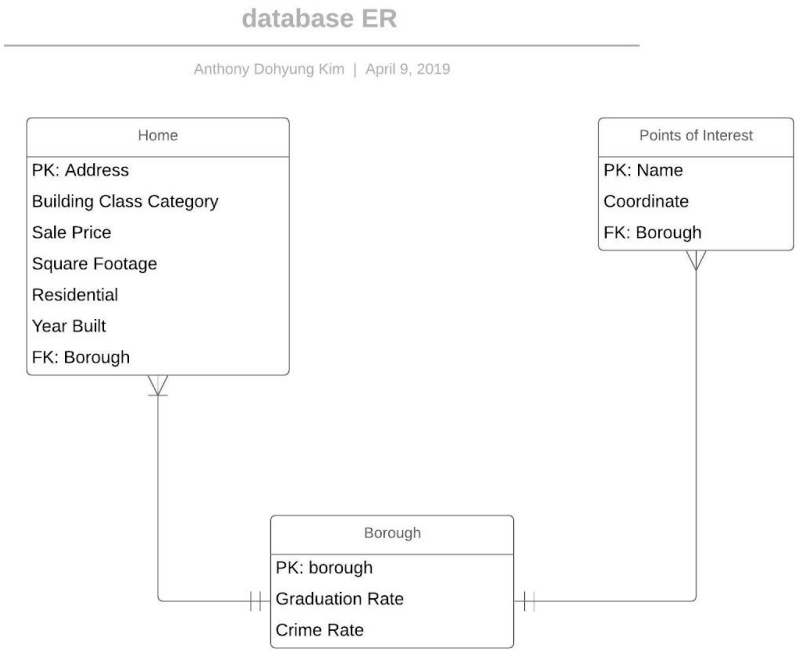

After a thorough review of our tables, we have determined that our tables are already in BCNF. This is due to the fact that there are no dependencies between attributes besides the attribute's dependency on the primary key for each table. We believe this is the result of initial careful planning when designing the tables and understanding their relationship in the ER diagram. When creating each table, we ensured that the attributes for each table were related to the primary keys we specified. For example, in our borough table we have the attributes "Crime rate" and "Graduation rate". These two statistics are being sourced from the borough themselves and therefore are attributes of the borough and dependent on the borough primary key.

Since our queries rely heavily on User inputs and selections, we will put in security features to ensure SQL injections won't give users unauthorized access to our database. This will be accomplished by preventing users from inputting SQL directly into the text boxes by preventing the input of SQL commands such as SELECT, FROM, WHERE, etc.

- Price Range Query
    - Will create a view of the available houses that fall into price ranges specified by the user
    - Will request the database for rent expense attributes from the house table where the rent expense matches the range specified by the user
        - SELECT Address, Sale Price
        - FROM Home

    -
        - WHERE Sale Price = User Selection
- Square Footage Query
    - Creates view of available houses with an exact value or within a range specified by user
    - Requests database for square footage attribute from house table to find houses matching square footage specifications entered by user
        - SELECT Address, Square Footage
        - FROM Home
        - WHERE Square Footage BETWEEN User Selection - 100 AND User Selection + 100
- Year Built Query
    - Creates view of available houses built in a certain year, or within a range of years specified by user
    - Requests database for year built attribute from house table to find houses matching year or range of years entered by user
        - SELECT Address
        - FROM Home
        - WHERE Year Built = User Selection
- Crime Rate Query
    - Creates view of houses with a crime rate lower than the one entered by the user
    - Requests database for crime rate of each house through the borough attribute of each house in the house table where the crime rate is below a certain threshold
        - SELECT Home.Address, Borough.CrimeRate
        - FROM Home
        - INNER JOIN Borough ON Home.Borough = Borough.Borough
        - WHERE Borough.Crime Rate < User Selection
- Points of Interest Query
    - Creates view of houses near point of attribute specified by user
    - Sends point of interest key to database to request houses in borough the primary key is in
        - SELECT Home.Address, PointsOfInterest.Name
        - FROM Home
        - INNER JOIN PointsOfInterest ON Home.Borough = PointsOfInterest.Borough
        - WHERE PointsOfInterest.Name = User Selection
- Borough Query
    - Will create a view of the available houses that are in this borough
    - Will request the database for borough attributes from house table where borough matches the borough specified by the user
        - SELECT Home.Address, Borough.Borough
        - FROM Home
        - INNER JOIN Borough ON Home.Borough = Borough.Borough

        - WHERE Home.Borough = User Selection
- Graduation rating Query
    - Will return a result of the addresses with graduation ratings that have the rating specified by the user
    - We will do a 5 star rating based off the normal distribution of graduation rates
    - Will request database for graduation rating from borough table where school rating matches the specifications of the user and links it to the addresses from the house table
        - SELECT Home.Address, Borough.GraduationRate
        - FROM Home
        - INNER JOIN Borough ON Home.Borough = Borough.Borough
        - WHERE Borough.GraduationRate > User Selection
- Combined Queries
    - Combined queries will ask the user for multiple criteria and return the results that match both these criteria
        - There will be multiple of these based off the simple queries specified above and will result in “inner joins” between tables based off the keys when attributes are spread across multiple queries
    - EXAMPLES:
        - Sale price, graduation rate, crime rate query
        - Sale price, square footage, year built, crime rate query
        - Sale price, square footage, graduation rate query
        - Sale price, borough