CS579 A1 Database Management

Lab1

# Jiankun Dong

Due: 9/26/2023

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Entity types:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Description | Attribute | | | |
| Name | Description | Multivalued | Derived |
| House |  | PID {K}  City  Type  Area  NoR  NoB  Credit | Property’s unique ID  Living Area (in square feet)  Number of Rooms  Number of Bathrooms  Allowance the seller wiling to pay as credit | N  N  N  N  N  N  N | N  N  N  N  N  N  N |
| Seller |  | SID {K}  SName  SFirst  SMinit  SLast  SPhone  Motivated | Seller’s unique ID  Seller’s name  Seller’s first name  Seller’s middle initials  Seller’s last name  Seller’s phone number  If the seller is motivated (Y/N) | N  Y  N  N  N  N  N | N  N  N  N  N  N  N |
| Buyer |  | BID {K}  BName  BFirst  BMinit  BLast  BPhone  Preapved | Buyer’s unique ID  Buyer’s name  Buyer’s first name  Buyer’s middle initials  Buyer’s last name  Buyer’s phone number  Whether the buyer is pre-approved for loan or not | N  Y  N  N  N  N  N | N  N  N  N  N  N  N |
| Realtor |  | RID {K}  RName  RFirst  RMinit  RLast  RPhone  Company  SFee  BFee | Realtor’s unique ID  Realtor’s name  Realtor’s first name  Realtor’s middle initials  Realtor’s last name  Realtor’s phone number  Company realtor works for  Seller’s fee (in percentage)  Buyer’s fee (in percentage) | N  Y  N  N  N  N  N  N  N | N  N  N  N  N  N  N  N  N |
| HoB | History of Bids (weak entity) | Date {WK}  Price | Date of bid, in “MMDDYYYY”  Price of the bid | N  N | N  N |

Relationships:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Participating Entity Types | | Attribute |
| Name | Structural Constrain |
| REPRESENT\_S | Realtor represents the seller | Realtor | (0, N) | None |
| Seller | (1, 1) |
| REPRESENT\_B | Realtor represents the buyer | Realtor | (0, N) | None |
| Buyer | (1, 1) |
| OWN | Seller owns the house | Seller | (1, N) | None |
| House | (1, 1) |
| BID | Buyer proposes the bid | Buyer | (0, N) | None |
| HoB | (1, 1) |
| BID\_ON | The house the bid is on. {Identifying relationship} for HoB | House | (0, N) | None |
| HoB | (1, 1) |

I’m assuming that the seller has at least 1 house to sell, but a buyer can be stored in the database before he/she makes a bid.

Each time a buyer makes a bid on a house, a history\_of\_bid is created. Bids in the same day on different houses results in multiple history\_of\_bid.

A diagram of a company

Description automatically generated