Relational Integrity Constraints

AmazonUser

A user has the primary key email. A user can be either a buyer or a seller (or both). Email addresses need to be unique for users, no two users can share the same email address since it is the primary key of the user table. Email address cannot be null. If a user account is deleted then its entries in seller and buyer need to be deleted as well. The user table also

Buyer

Buyers have unique buyer IDs (labeled b\_id in the table). The b\_id are generated internally. This creates the constraint that b\_id can’t be null. Buyer has a many to one relationship with creditCard as one buyer may have many credit cards.

Seller

Sellers have unique Seller Ids (labeled s\_id in the table). These are generated internally. This creates the constraint that s\_id can’t be null. Seller has a many to one relationship with items as one seller may have many items.

Purchase

This table uses p\_ID as its primary key. Purchase also has seller ID and buyer ID as foreign keys. Because of this p\_ID has the constraint that it can’t be null. Buyers have a many to one relationship with purchase, one buyer may make many purchases. Sellers also have a many to one relationship with purchase as one seller may facilitate many purchases.

Item

Every item in for sale has the unique primary key item\_id. This is done so each item can be easily identified and there is no natural key for item. This creates the constraint that item\_id can’t be null. Items also have prices and therefore the entry price also can’t be null. Item also has a name attribute and a category attribute which cannot be null.

Feedback

Feedback is its own table that has artificially generated primary key called f\_id. This done so you can uniquely identify feedback between a buyer and a seller. This also means that f\_id has the constraint that it can’t be null. Feedback also has an integer rating from one to five. Rating has the constraint that it can’t be null and needs to be an integer which is between one and five. Buyers has a many to one relationship with Feedback as one customer may give many feedbacks. Seller has a many to one relationship with Feedback as one seller may receive many feedbacks.

CreditCard

Credit card has credit card number (cnumber) as its primary key which cannot be null. It also has an expirationDate and cvv which both cannot be null as well. Credit card also has buyer ID and both cnumber and buyer ID are its primary keys.

Contain

Contain is a join table which has item\_id, p\_id and quantity number (qn) and all cannot be null. Its primary key is item\_id and p\_id.

Pays

Pays is a join table which has cnumber which cannot be null and p\_id. This join table is how a purchase is paid for.

Offer

Offer is a join table which has seller ID (s\_ID) and item\_ID, both cannot be null and they are also the primary keys. This tables is used to keep track of which items a particular seller offers.

Views

Views is a join table which has buyer ID (b\_ID) and item\_ID and neither can be null. This table is used to keep track of what users have looked at what items.