

# RELATIONAL SCHEMA DESIGN

## 1. Relational definitions in text form

### Relation Item

Column Name	Type	Key Constraint	Description
ItemID	INTEGER	PRIMARY KEY	An identifier unique across all items
Name	TEXT		A short item description used as the auction's title
Currently	TEXT		The current highest bid. This amount is always equal to the amount of the highest bid, or First_Bid if there are no bids.
BuyPrice	TEXT		The price, chosen by the seller before the auction starts, at which a bidder can win the auction immediately. The seller may choose not to set such a price, in which case the element would be missing.
FirstBid	TEXT		The minimum qualifying first-bid amount, as determined by the seller before the auction starts. It does not mean there is a bid at all.
NumberOfBids	INTEGER		Number of Bids/Bid elements, each corresponding to a bid for a particular item
Started	TEXT		Auction start time
Ends	TEXT		Auction end time. If this is in the past with respect to the current system time, the auction is closed. If in the future, the auction is still open.

### Relation User(Including bidder and seller)

Column Name	Type	Key Constraint	Description
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Column Name	Type	Key Constraint	Description
UserID	TEXT	PRIMARY KEY	unique id for a user across all users
Location	TEXT		Location of User
Country	TEXT		Country of User
Rating	REAL		User's rating

## Relation Category

Column Name	Type	Key Constraint	Description
ItemID	INTEGER	PRIMARY KEY Together with Category FOREIGN KEY References Item (ItemID)	An identifier unique across all items
Category	TEXT	PRIMARY KEY Together with ItemID	A category to which the item belongs. An item may belong to multiple categories

## Relation Bid

Column Name	Type	Key Constraint	Description
ItemID	INTEGER	FOREIGN KEY References Item (ItemID)	An identifier unique across all items
SellerID	TEXT	FOREIGN KEY References User (UserID)	unique id for a user across all users
BidderID	TEXT	FOREIGN KEY References User (UserID)	unique id for a user across all users
Time	TEXT		Time of bid
Amount	TEXT		Amount of bid

2. ER diagram

