

# Relational Schema

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Item table contains all the information of an item. Item\_id is a unique identifier to each item, which is also used to refer to the “includes” and “bids” table. Seller\_id is a foreign key that is referencing the “user” table, in which also contains the location and country of the item.

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**TABLE Item:** ["item\_id", "name", "currently", "buy\_price", "first\_bid", "number\_of\_bids", "started", "ends", "seller\_id", "description"]

- **item\_id:** a unique identifier for the item, PRIMARY KEY  
INT
- **name:** item's name  
VARCHAR(255)
- **currently:** the current highest bid, equals to FirstBid if there are no bids  
DOUBLE
- **buy\_price:** the price chosen by the seller  
DOUBLE
- **first\_bid:** minimum first-bid amount  
DOUBLE
- **number\_of\_bids:** number of Bids/Bids element  
INT
- **seller\_id:** FOREIGN KEY REFERENCES User(user\_id)  
INT
- **started:** auction start time  
datetime
- **ends:** auction end time  
datetime
- **description:** item's full description  
VARCHAR(255)

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This is a Category table which contains all categories presented in the data. Cate\_ID is a unique identifier to each category and is used to link each item with its Cate\_Name in the Item table.

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**TABLE Category:** ["Cate\_ID", "Cate\_Name"]

- **Cate\_ID:** index to identify category in the table, PRIMARY KEY
  - INT
- **Cate\_Name:** description for the category
  - VARCHAR(255)

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This is a Bids table which contains all the bids presented in the data. Bid\_ID is a unique identifier

to each bid. Bidder\_id is a foreign key that is referencing the user\_id from the “user” table. Item\_id is a foreign key that is referencing the “item” table. Bid\_time records the time of the bids in the date-time format, and amount records the amount of the bids in double.

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ids **TABLE Bids:** ["bid\_ID", "bidder\_id", "item\_id", "bid\_time", "amount"]

- **bid\_ID:** Unique identifier for Bids, PRIMARY KEY
  - INT
- **bidder\_id:** FOREIGN KEY REFERENCES User(user\_id)
- **Item\_id:** FOREIGN KEY REFERENCES Item(item\_id)
- **bid\_time:** time of the bid
  - datetime
- **amount:** amount of bid
  - DOUBLE

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User table contains all users with a unique identifier user\_id to each user. It also contains a rating for each user as an int type. Location\_id is a foreign key referencing the Location table, which contains the location and country of the user.

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**TABLE User:** ["user\_id", "Rating", "Location", "Country"]:

- **user\_id:** unique identifier for the user, PRIMARY KEY
  - VARCHAR(255)
- **Rating:** user's rating
  - INT
- **Location\_id:** FOREIGN KEY REFERENCES Location(location\_id)
  - INT

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Location table contains all locations of users with a unique identifier to each location, it also contains location and country as varchar(255).

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**TABLE Location:** ["location\_id", "location", "country"]:

- **location\_id:** unique identifier for the location, PRIMARY KEY
  - INT
- **location:** name of specific location
  - VARCHAR(255)
- **country:** country of above location
  - VARCHAR(255)

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This table contains item\_id and category\_id with each item\_id may link to multiple category id.

Item\_id is referencing to the Item table and category\_id is referencing to the Category table.  
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**TABLE Includes:** ["item\_id", "category\_id"]:

- **(item\_id, category\_id)** PRIMARY KEY
- **item\_id:** FOREIGN KEY REFERENCES Item(item\_id)
  - INT
- **Category\_id:** FOREIGN KEY REFERENCES Category(category\_id)
  - INT

## ER Diagram

