

Explain the information about your schema :

The exact create sql code is in next page.

Below table is named Item.

Item is the most important entity which means auction.

Each tuple has 9 elements. ItemID is the primary key since it's the only integer number to identify items.

<u>ItemID</u>	Name	Description	Started	Ends	First_Bid	Currently	Number_of_Bids	Buy_Price
INTEGER	TEXT	TEXT	TEXT	TEXT	REAL	REAL	INTEGER	REAL

User table is another entity.

In fact, users are belong to two groups. One is seller and another group is bidder. Rating, Country and Location may be missing for some tuples. But userID exists all the time. It's the primary key for user.

<u>UserID</u>	Rating	Country	Location
TEXT	INTEGER	TEXT	TEXT

Category has only one attribute CategoryName. Category is also an entity.

<u>CategoryName</u>
TEXT

Bid is a relationship between Item and User, which is to say user bid in an auction.

BTime(bid time), ItemID and UserID are primary keys of Bid table.

ItemID and UserID are key of Item and User in Bid relationship, thus they are FOREIGN KEY.

<u>BTime</u>	<u>ItemID</u>	<u>UserID</u>	Amount
TEXT	INTEGER	TEXT	REAL

belong_to_Cat is a relationship between Item and Category, which is to say one Item belong to categories. Item and Category are primary key and foreign key.

<u>ItemID</u>	<u>CategoryName</u>
INTEGER	TEXT

Final table Sell is relationship between Item and User, which means every item is sold by one seller. Here, UserID and ItemID are primary key and foreign key.

<u>ItemID</u>	<u>UserID</u>
INTEGER	TEXT

```
CREATE TABLE Item(  
    ItemID INTEGER PRIMARY KEY,  
    Name TEXT,  
    Description TEXT,  
    Started TEXT,  
    Ends TEXT,  
    First_Bid REAL,  
    Currently REAL,  
    Number_of_Bids INTEGER,  
    Buy_Price REAL  
);
```

```
CREATE TABLE User(  
    UserID TEXT PRIMARY KEY,  
    Rating INTEGER,  
    Country TEXT,  
    Location TEXT  
);
```

```
CREATE TABLE Category(  
    CategoryName TEXT PRIMARY KEY  
);
```

```
CREATE TABLE belong_to_Cat(  
    ItemID INTEGER,  
    CategoryName TEXT,  
    PRIMARY KEY (ItemID,CategoryName),  
    FOREIGN KEY (ItemID) REFERENCES  
Item(ItemID),  
    FOREIGN KEY (CategoryName) REFERENCES  
Category(CategoryName)  
);
```

```
CREATE TABLE Bid(  
    BTime TEXT,  
    ItemID INTEGER,  
    UserID TEXT,  
    Amount REAL,  
    PRIMARY KEY (BTime,ItemID,UserID),  
    FOREIGN KEY (ItemID) REFERENCES Item(ItemID),  
    FOREIGN KEY (UserID) REFERENCES User(UserID)  
);
```

```

CREATE TABLE Sell(
    ItemID INTEGER,
    UserID TEXT,
    PRIMARY KEY (ItemID,UserID),
    FOREIGN KEY (ItemID) REFERENCES Item(ItemID),
    FOREIGN KEY (UserID) REFERENCES User(UserID)
);

```

