

## Relational Design

- This table includes all buyers and bidders presented in the given data. It also records his or her location and country if presented.

```
create table Users(  
    UserID      VARCHAR,  
    Rating      INT,  
    Location     VARCHAR,  
    Country      VARCHAR,  
    PRIMARY KEY (UserID)  
);
```

- This table includes all items presented in the given data. It records the name, current price, buy price, first bid, number of bids, seller's id, start and end dates, and the description of the item. Each item has a unique identifier ItemID. The Seller\_ID is a foreign key referencing the UserID from the Users table.

```
create table Items(  
    ItemID       INT,  
    Ends         DATE NOT NULL,  
    First_Bid    DOUBLE NOT NULL,  
    Name         VARCHAR NOT NULL,  
    Started      DATE NOT NULL,  
    Number_of_Bids INT NOT NULL,  
    Currently     DOUBLE NOT NULL,  
    Description   VARCHAR NOT NULL,  
    Seller_ID     FLOAT NOT NULL,  
    Buy_Price     DOUBLE,  
    PRIMARY KEY (ItemId),  
    FOREIGN KEY (Seller_ID) REFERENCES Users(UserID)  
);
```

- This table includes all bids presented in the given data. Each bid also has a Time and an Amount. The UserID is a foreign key referencing the UserID from the Users table. The ItemID is a foreign key referencing the ItemID from the Items table.

```
create table Bids(  
    UserID      VARCHAR,  
    ItemID      INT NOT NULL,  
    Time        DATE NOT NULL,  
    Amount      DOUBLE NOT NULL,  
    PRIMARY KEY (UserID, Time, Amount, ItemID),
```

```

FOREIGN KEY (UserID) REFERENCES Users(UserID),
FOREIGN KEY (ItemID) REFERENCES Items(ItemID)
);

- This table includes all categories presented in the given data. The ItemID is a
  foreign key referencing the ItemID from the Items table.
create table Category(
  ItemID      INT,
  Name        VARCHAR,
  PRIMARY KEY (Name, ItemID),
  FOREIGN KEY (ItemID) REFERENCES Items(ItemID)
);

```

## ER Diagram

