

Online Auction

Database Design

AUCTION_USER : Table contains details of all users including Sellers and Users both.

Executed Query:-

```
CREATE TABLE AUCTION_User(User_Id INT NOT NULL GENERATED ALWAYS AS  
IDENTITY (START WITH 1, INCREMENT BY 1), Name VARCHAR(100), DOB DATE,  
Email VARCHAR(100), Contact_No BIGINT, User_Name VARCHAR(100), Password  
VARCHAR(100), Address VARCHAR(100), User_Type VARCHAR(100),  
Wallet_Amount DOUBLE, LAST_LOGGEDIN TIMESTAMP, CONSTRAINT  
User_Id_PK PRIMARY KEY(User_Id));
```

FIELD NAME	DATA TYPE	CONSTRAINT	DESCRIPTION
USER_ID	INT	Primary Key, Identity, Not Null	Auto-Generated (Start with 1, Increment by 1)
NAME	VARCHAR	Not Null	Full name of the User
DOB	DATE	Not Null	Date of Birth of the User
EMAIL	VARCHAR	Not Null	Email Id of the User
CONTACT_NO	BIGINT	Not Null	Contact Number of the User
USER_NAME	VARCHAR	Not Null	Unique Username of the User
PASSWORD	VARCHAR	Not Null	Password of the User
ADDRESS	VARCHAR	Not Null	Address Details of the User
USER_TYPE	VARCHAR	Not Null	Type of User (Seller/Buyer)
WALLET_AMOUNT	DOUBLE	Not Null	Wallet Amount of the User
LAST_LOGGEDIN	TIMESTAMP	Not Null	System fetched Date & Time details for last login of the user

CATEGORY : Table consists various categories available for sellers and buyers.

Executed Query:-

CREATE TABLE CATEGORY(Unique_Id **INT NOT NULL** GENERATED ALWAYS **AS** IDENTITY (START **WITH** 1, INCREMENT **BY** 1), Category_Name **VARCHAR**(100), Category_Description **VARCHAR**(500), **CONSTRAINT** Category_Name_CPK **PRIMARY KEY**(Category_Name));

FIELD NAME	DATA TYPE	CONSTRAINT	DESCRIPTION
UNIQUE_ID	INT	Identity, Not Null	Auto-Generated (Start with 1, Increment by 1)
CATEGORY_NAME	VARCHAR	PRIMARY KEY, Not Null	Category of the Products available
CATEGORY_DESCRIPTION	VARCHAR	Not Null	Descriptive details of the Category

PRODUCT : Table contains details about added products provided by the Sellers.

Executed Query:-

CREATE TABLE PRODUCT(Unique_Id **INT NOT NULL** GENERATED ALWAYS **AS** IDENTITY (START **WITH** 1, INCREMENT **BY** 1), Product_Name **VARCHAR**(100), Product_Category **VARCHAR**(100), Product_Description **VARCHAR**(500), Actual_Price **DOUBLE**, Quantity **INT**, User_Id **INT**, **CONSTRAINT** Unique_Id_PPK **PRIMARY KEY**(Unique_Id), **CONSTRAINT** Product_Category_CFK **FOREIGN KEY**(Product_Category) **REFERENCES** CATEGORY(Category_Name), **CONSTRAINT** User_Id_FK **FOREIGN KEY**(User_Id) **REFERENCES** AUCTION_USER(User_Id));

FIELD NAME	DATA TYPE	CONSTRAINT	DESCRIPTION
UNIQUE_ID	INT	PRIMARY KEY, Identity	Auto-Generated (Start with 1, Increment by 1)
PRODUCT_NAME	VARCHAR	Not Null	Name of the Product
PRODUCT_CATEGORY	VARCHAR	FOREIGN KEY	Particular Category to which the Product belongs
PRODUCT_DESCRIPTION	VARCHAR	Not Null	Descriptive details of the Product
ACTUAL_PRICE	DOUBLE	Not Null	Actual Price of the product quoted by it's Seller
QUANTITY	INT	Not Null	Defined Quantity of the Product available for auction
USER_ID	INT	FOREIGN KEY	User ID of the Seller for an added Product from AUCTION_USER

SCHEDULE_AUCTION : Table contains details about the scheduled auctions for the added products available under different categories.

Executed Query:-

```
CREATE TABLE SCHEDULE_AUCTION(Unique_Id INT NOT NULL GENERATED  
ALWAYS AS IDENTITY (START WITH 1, INCREMENT BY 1), Product_Id INT,  
Min_Bid_Value DOUBLE, Bid_Start_Date DATE, Bid_End_Date DATE, User_Id INT,  
Sold_Price DOUBLE, Bid_Status VARCHAR(100), CONSTRAINT Product_Id_APFK  
FOREIGN KEY(Product_Id) REFERENCES PRODUCT(Unique_Id), CONSTRAINT  
User_Id_AFK FOREIGN KEY(User_Id) REFERENCES AUCTION_USER(User_Id));
```

FIELD NAME	DATA TYPE	CONSTRAINT	DESCRIPTION
UNIQUE_ID	INT	Identity, Not Null	Auto-Generated (Start with 1, Increment by 1)
PRODUCT_ID	INT	FOREIGN KEY	Unique ID of the Product
MIN_BID_VALUE	DOUBLE	Not Null	Minimum price value quoted by the Seller
BID_START_DATE	DATE	Not Null	Start Date to open an auction
BID_END_DATE	DATE	Not Null	End Date to close an auction
USER_ID	INT	FOREIGN KEY	User ID of the Seller for an added Product from AUCTION_USER
SOLD_PRICE	DOUBLE	Not Null	Price at which the Product is Sold
BID_STATUS	VARCHAR	Not Null	Status of the scheduled auction product

BID : Table contains details about the auction bids placed by the buyers.

Executed Query:-

```
CREATE TABLE BID(Unique_Id INT NOT NULL GENERATED ALWAYS AS IDENTITY  
(START WITH 1 INCREMENT BY 1), Product_Id INT, Bid_Value DOUBLE, User_Id  
INT, Bid_Status VARCHAR(100), CONSTRAINT Product_Id_BPFK FOREIGN  
KEY(Product_Id) REFERENCES PRODUCT(Unique_Id), CONSTRAINT User_Id_BFK  
FOREIGN KEY(User_Id) REFERENCES AUCTION_USER(User_Id));
```

FIELD NAME	DATA TYPE	CONSTRAINT	DESCRIPTION
UNIQUE_ID	INT	Identity, Not Null	Auto-Generated (Start with 1, Increment by 1)
PRODUCT_ID	INT	FOREIGN KEY	Unique ID of the Product
BID_VALUE	DOUBLE	Not Null	Price quoted by User to place a Bid for a product in auction
USER_ID	INT	FOREIGN KEY	User ID of the Buyer from AUCTION_USER
BID_STATUS	VARCHAR	Not Null	Status of the scheduled auction product