ER Diagram Assignment 4

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Entity:

CUSTOMER ACCOUNT

List of Attributes

Attributes	Description	Type of Key (If identifier)
CustomerID	Each Customer will have a unique ID generated for them. This will ensure its unique for a specific customer account	Surrogate Key: Natural key is not appropriate because simply having a customer name will not be unique enough.
fullname	Customers Name	
address	Customers address	
exchangeBalance	How much money a Customer has currently invested	

ORDERSTATUS

List of Attributes

Attributes	Description	Type of Key (If identifier)
OrderStatusID	This artificially created ID	Surrogate Key: Surrogate Key: Natural key is not appropriate because generating a unique number will ensure that no duplicates of names or numbers will not occur
orderType	declares the status of the order for example if its pending, filled, cancelled, or partially filled	

STOCK

List of Attributes

Attributes	Description	Type of Key (If identifier)
StockSymbol	Unique stock symbol for each company in the stock exchange	Natural Key
name of Company	Full name of the company	
Share	cost per share	

STOCK EXCHANGE

List of Attributes

Attributes	Description	Type of Key (If identifier)
exchangeID	Random generated number associated with the stock exchange	Surrogate Key: Natural key is not appropriate because generating a unique number will ensure that no duplicates of names or numbers will not occur
Customer Orders	Holds all of the customers orders	

STOCK TRANSACTION

List of Attributes

Attributes	Description	Type of Key (If identifier)
TransactionID	Unique stock symbol for each company in the stock exchange	Surrogate Key: Natural key is not appropriate because generating a unique number will ensure that no duplicates of names or numbers will not occur
Date	Date that the match was completed	
exchangedWith	Name of company associated with this transaction	
exchangedShares	how many shares the customer bought or sold	
recipient	Customer who is a part of this transaction	

ORDERS

List of Attributes

Attributes	Description	Type of Key (If identifier)
orderID	Random generated number	Surrogate Key: Surrogate Key: Natural key is not appropriate because generating a unique number will ensure that no duplicates of names or numbers will not occur
typeofOrder	Where customer can specify if this is a limit or market order	
exchangeRequestAmount	the amount a customer want to buy or sell	

PERSONAL BANK ACCOUNT

List of Attributes

Attributes	Description	Type of Key (If identifier)
bankID	Each bank will have its own unique banking id, which will be randomly generated	Surrogate key: Natural key is not appropriate because there are going to be too many instances an ID will insure its unique
bank name	Bank Name listed	
routing number	Banks routing number	
date	Current date to track the current status of the bank account	
balance	balance of the bank account	
transfer type	is the transfer going to be a withdraw or deposit	

List of Relationships

Relationship	Description	Connectivity of a Relationship
Customer Account -- (1,m) -- Banking Transactions-- (1,n) -- Personal Bank Account	A customer can have a minimum of one personal banking account or a maximum of many linked to their account, has a transaction data attribute that will happen called amount this is the amount of money that will be transferred. Many banking transactions can take place between the personal bank accounts and the customer	many to many
Customer Account-- (1,1) -- Requests -- (1,m) -- Order	In order for a customer to have a order request one customer needs to place a request. A customer can have many order requests	one to many
Orders -- (1,1) -- Status -- (1,1) -- Order Status	An order can only have one order status associated with it at a time	one to one
Orders -- (1,1) -- Match Request -- (1,m) -- Stock Exchange	an order that has been requested by one customer at a time will be placed in the stock exchange there are many orders in the exchange.	one to many
Stock Exchange -- (1,m) -- Companies Data -- (1,n) -- Stock	A stock exchange has many companies associated with it and there are many different types of stocks in the exchange	many to many
Stock Exchange -- (1,m) -- match -- (1,n) -- Stock Transaction	There are many orders that will match in the stock exchange therefore many transactions will take place	manny to many
Customer Account -- (1,1) -- Transfer Funds -- (1,m) -- Stock Transaction	One customer can have many transactions associated to their account	one to many