***East West University***

**Wholesale Management System DB**

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**Project Details:**

We have created a Database System for Wholesale Management that can carry a lot of data sets so that we can compute faster and efficiently manage the whole system.

In order to do that, we have created several entity sets with couple of attributes for each. Then we have created relations between them. Now we can calculate Profit for any month, we can find the amount which we have and the amount that a customer has to pay. We can also have a easy view to our stock.

**Discussion About Entity Sets:**

Here, we have created 5 Entity sets

1. Customer
2. Product
3. Stock
4. Order\_List
5. Payment\_Status

**Attributes and Keys:**

For the entity **Customer**, we have created the following attribute-

Customer\_Name : Datatype - char(32)

Customer\_ID : Datatype - varchar(16), Primary Key

Date\_of\_Purchase : Datatype - composite

Here component attributes are-

Month : Datatype - char(32)

Date : Datatype - int

Year : Datatype - int

And finally,

Address : Datatype - composite

Here component attributes are-

Road\_No : Datatype - varchar(16)

House\_No : Datatype - varchar(16)

City : Datatype - char(20)

Area : Datatype - char(32)

For the entity **Product**, we have created the following attribute-

Company\_Name : Datatype - char(32)

Company\_ID : Datatype - varchar(16)

Product\_Name : Datatype - char(32

Price\_Per-Unit : Datatype - int

Product\_Id : Datatype - varchar(16)

For the entity **Stock**, we have created the following attribute-

Product\_Id : Datatype - varchar(16),Primary Key

Product\_Name : Datatype - char(32)

Price\_Per-Unit : Datatype - int

Quantity : Datatype - int

For the entity **Order\_List**, we have created the following attribute-

Product\_Id : Datatype - varchar(16),Primary Key

Quantity : Datatype - int

Quantity\_Remain : Datatype - int

For the entity **Payment\_Status**, we have created the following attribute-

Customer\_ID : Datatype - varchar(16)

Status : Datatype - char(20)

**Relationship Sets and Cardinality:**

We have created 4 relationship sets.

ReStock : Entity sets are : Company and Order list.

Cardinality : Many to One

Stock\_Order : Entity sets are : Stock and Order\_List

Cardinality : Many to Many

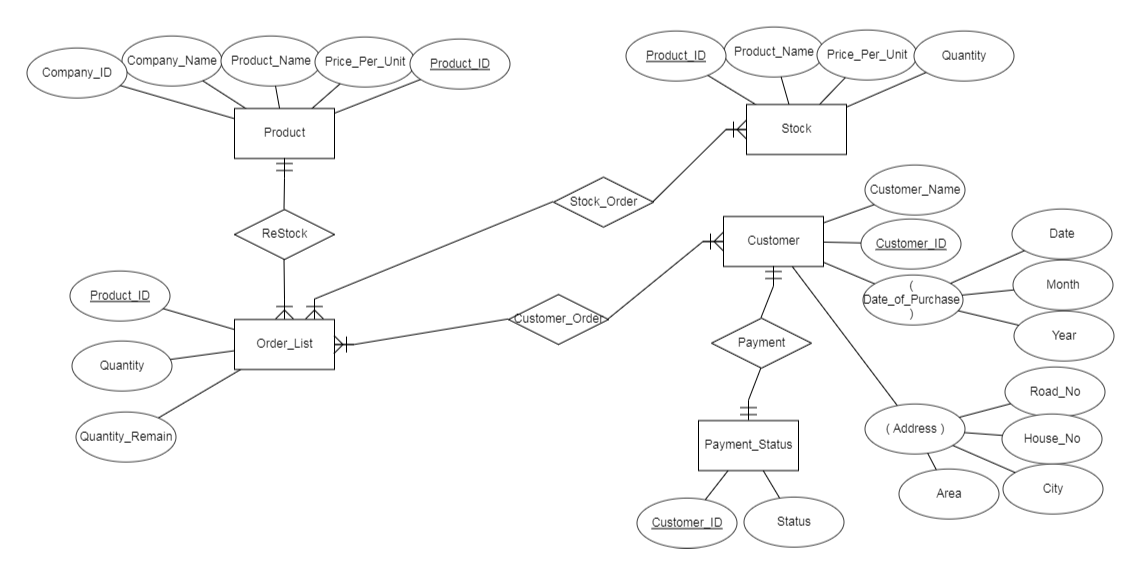
Customer\_Order : Entity sets are : Customer and Order\_List

Cardinality : Many to Many

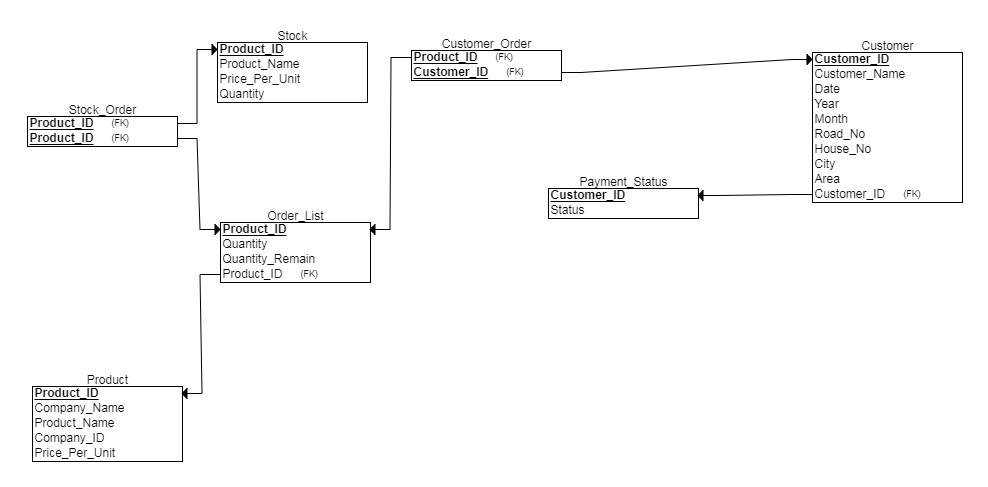
Payment : Entity sets are : Customer and Payment\_Status

Cardinality : One to One

**ER Diagram:**



**Relational Schema:**



**Database Construction:**

SQL Query:

create table Company(

Company\_ID varchar(16) not null,

Company\_Name varchar(32) not null,

Product\_Name char(32),

Product\_ID varchar(16),

Price\_Per\_Unit int,

PRIMARY key(Product\_Name, Product\_ID)

);

INSERT into company values('C01','Maggi','Maggi','001',48);

INSERT into company values('C01','Maggi','Naga Maggi','002',90);

INSERT into company values('C01','Maggi','Masala Maggi','003',70);

INSERT into company values('C01','Maggi','Ready-Made Maggi','004',25);

INSERT into company values('C02','Cocola','Noodles','005',60);

INSERT into company values('C02','Cocola','Shemai','006',60);

INSERT into company values('C02','Cocola','Lachcha','007',80);

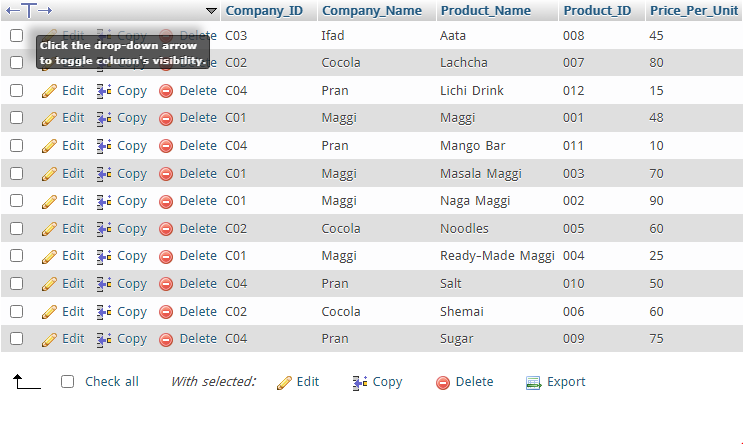
INSERT into company values('C03','Ifad','Aata','008',45);

INSERT into company values('C04','Pran','Sugar','009',75);

INSERT into company values('C04','Pran','Salt','010',50);

INSERT into company values('C04','Pran','Mango Bar','011',10);

INSERT into company values('C04','Pran','Lichi Drink','012',15);



create table Stock(

Product\_Name char(32) not null,

Product\_ID varchar(16),

Price\_Per\_Unit int not null,

Quantity int not null,

PRIMARY key(Product\_ID)

);

INSERT into stock values('Maggi','001',48,50);

INSERT into stock values('Naga Maggi','002',90,60);

INSERT into stock values('Masala Maggi','003',70,20);

INSERT into stock values('Ready-Made Maggi','004',25,40);

INSERT into stock values('Noodles','005',60,70);

INSERT into stock values('Shemai','006',60,40);

INSERT into stock values('Lachcha','007',80,80);

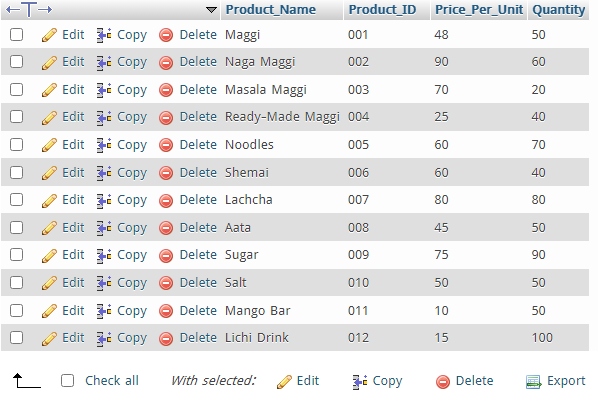
INSERT into stock values('Aata','008',45,50);

INSERT into stock values('Sugar','009',75,90);

INSERT into stock values('Salt','010',50,50);

INSERT into stock values('Mango Bar','011',10,50);

INSERT into stock values('Lichi Drink','012',15,100);



create table Customer(

Customer\_Name char(32) not null,

Customer\_ID varchar(16) not null,

Purchase\_Date int(2) not null,

Purchase\_Month char(20) not null,

Purchase\_Year int(4) not null,

Road\_No varchar(10) not null,

House\_No varchar(10) not null,

City char(20) not null,

Area char(20) not null

);

INSERT into customer values('Md Shafiq','CUS001',10,'September',2021,'Rd\_No#07','HNo#20','Dhaka', 'Mohammadpur');

INSERT into customer values('Robert D’Cuza', 'CUS002',12,'September',2021,'Rd\_No#18','HNo#328','Dhaka', 'Mohammadpur');

INSERT into customer values('Pranto Borua', 'CUS003',24,'January',2021, 'Rd\_No#27','HNo#75','Dhaka', 'Mirpur-1');

INSERT into customer values('Jibon Kumar','CUS004',25,'March',2021, 'Rd\_No#03','HNo#21','Dhaka', 'Mirpur-6');

INSERT into customer values('Jahidul Hasan','CUS005',06,'July',2021, 'Rd\_No#01','HNo#03','Dhaka', 'Badda');

INSERT into customer values('Jabed Ahmed','CUS006',21,'February',2021, 'Rd\_No#03','HNo#04','Dhaka', 'Banasree');

INSERT into customer values('Sheuli Begom','CUS007',27,'June',2021, 'Rd\_No#06','HNo#21','Dhaka', 'Rampura');

INSERT into customer values('Rokeya Zaman','CUS008',15,'August',2021, 'Rd\_No#10','HNo#08','Dhaka', 'Khilgaon');

INSERT into customer values('Md Aslam Khan','CUS009',25,'April',2021, 'Rd\_No#04','HNo#15','Dhaka', 'Uttora');

INSERT into customer values('Rohomot Molla','CUS010',18,'May',2021, 'Rd\_No#15','HNo#04','Dhaka', 'Basabo');



CREATE TABLE order\_list(

Customer\_ID varchar(16) not null,

Product\_ID varchar(16) not null,

Quantity int not null,

Quantity\_Remain int not null

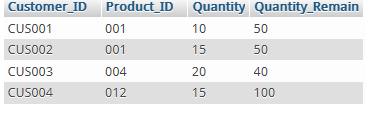
);

INSERT into order\_list values ('CUS001','001',10,50);

INSERT into order\_list values ('CUS002','001',15,50);

INSERT into order\_list values ('CUS003','004',20,40);

INSERT into order\_list values ('CUS004','012',15,100);



create table Payment\_Status(

Customer\_ID varchar(16) PRIMARY KEY,

Status char(10),

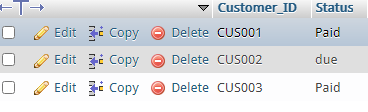
CONSTRAINT check\_status check (Status in('Paid','Due'))

)

INSERT into payment\_status VALUES ('CUS003','Paid');

INSERT into payment\_status VALUES ('CUS001','Paid');

INSERT into payment\_status VALUES ('CUS002','Due');



**Updating Table:**

Let’s say we want to update **stock table.**

We will update the quantity of ‘Masala Maggi’ from 20 to 50 and the quantity of ‘Salt’ from 50 to 100.

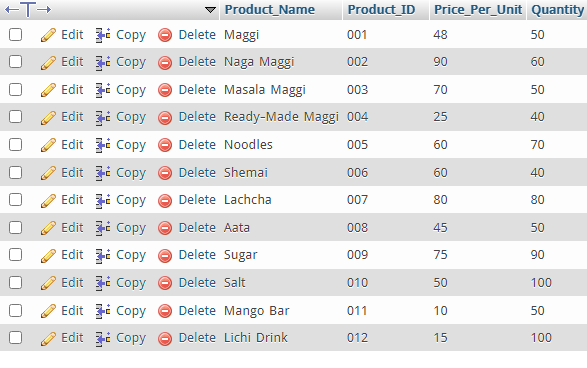
Here the product Id of ‘Masala Maggi’ is **003** and product Id of ‘Salt’ is **010.**

Now we will select from the table **stock** and change the quantity where product id is 003 and 010 to our desired number.

SQL query:

UPDATE stock set Quantity=50 where Product\_ID='003';

UPDATE stock set Quantity=100 where Product\_ID='010';



**Delete From Table:**

Let’s say we want to delete a customer’s details from the **customer table.**

For example, we want to delete the profile of ‘Rohomot Molla’ whose customer Id is ‘CUS010’

We will have to find the customer profile from the customer table using the customer\_ID and then delete his details.

SQL query:

delete from customer where Customer\_ID='CUS010';



**Selecting using Natural Join:**

If we want to find customer details whose has paid his the payment,

We will use natural join the customer table and the payment\_status table and then find whose status = ‘Paid’, and then select the details of those customers.

SQL query:

SELECT Customer\_Name, Customer\_ID, Purchase\_Date, Purchase\_Month, Purchase\_Year, Road\_No, House\_No, City, Area from customer NATURAL JOIN payment\_status where payment\_status.Status = 'Paid';



**Profit Calculation:**

For a given month September, calculating profit-

SQL query-

SELECT SUM(order\_list.Quantity\*stock.Price\_Per\_Unit) as 'Profit' From stock,order\_list NATURAL join customer NATURAL JOIN payment\_status WHERE

stock.Product\_ID=order\_list.Product\_ID AND customer.Purchase\_Month='September' AND payment\_status.Status='Paid';



**Conclusion:**

Due to the pandemic and other issues, the database we’ve created is not that much advanced and there is a lot we can develop. There is a chance that there might be bug problems in the database due to limitation of time. But one thing can be said that, this database can calculate profit and monitor a basic wholesale management system.