King Saud University
College of Computer and Information Sciences
Department of Information Technology

IT222: Database Principles
1439-1440 H

NISNASS
نسناس

DATABASE OF NISNASS
-Online store-

NAMES OF THE WORK TEAM
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Project Description:

NISNASS store is a store that offer online shopping. The store has three main sections is women, men and kids under these three sections we have different sections such as Clothing, Shoes, home ware, and Accessories. This store allow customer to buy the desired Needs with the selected attributes and search for them easily.

View Description:

The view will be used by manager, he will be able to manage the product by adding & removing from the store, Tracking order to arrive for the customer. In addition, can see the view of customers, also he can send orders to staff.

Data Requirements:

Order:
Order is the operation to from specific products to buy it, each order has many products. The information of order includes unique Order_ID, Order_Date, Total_Cost,

Customer:
A person who interested in buying different product by the application. The customers have unique Customer_ID, name, e-mail, phone number, address which contain country and city, sex, DOB, Age. Customer can make many orders, and each order made by one customer.

Product:
A product is the item offered for sale. The product can be in one or more or non orders and the order can have one or more products. Each product in the application has uniquely ProdectNo, Pname, price, Pquantity,PDiscreption , productCatgory.

Shipping company:
This category is for companies concerned with freight transport. The shipping company have unique Cname, transportType, Phone. The shiping company present more than one orders for transport.

Employee:
an individual who was hired by an employer to do a specific job. the employee has unique Em_ID, Salary, name, e-mail, Position, Phone number. each employee manipulates many orders.

Transaction Requirements:

Data Entry:

1- Enter product information
2-Enter customer information

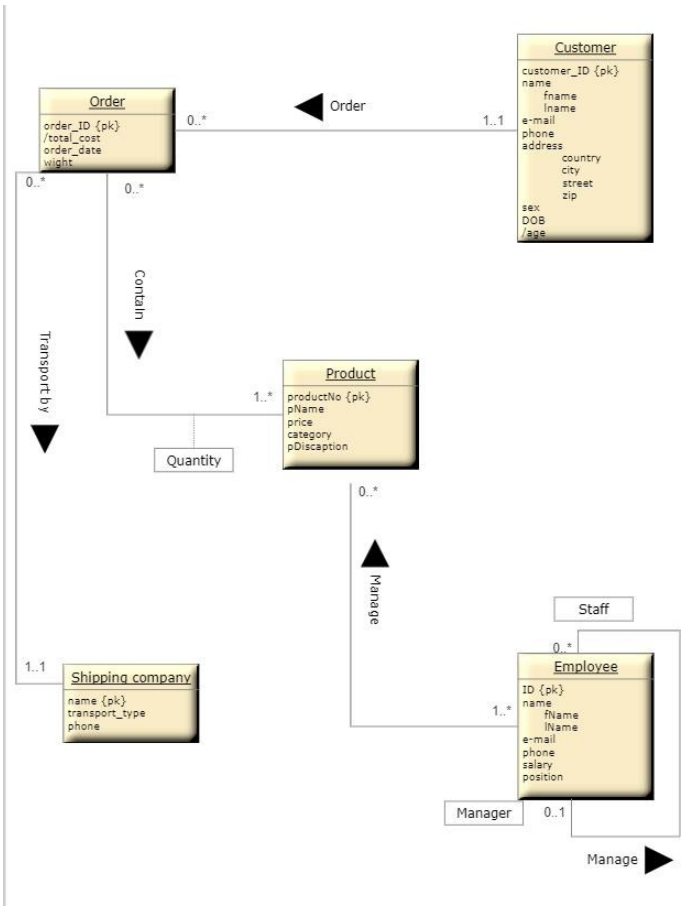
Data update/deletion:

1-update product information.
2-delete product.
3- update customer information.

Data Queries:

1- List the products.
2-List the customers.
3-Display orders in specific date.
4-List the products greater than specific price.
5-Display order of specific customer.
6- Display best seller of products.
7- List the Orders that Shipped by specific Shipping Company.
8-List the Products in specific Order.
9-List the Employee with specific position.
10-List the employees.

Enhanced entity relationship diagram (EER):



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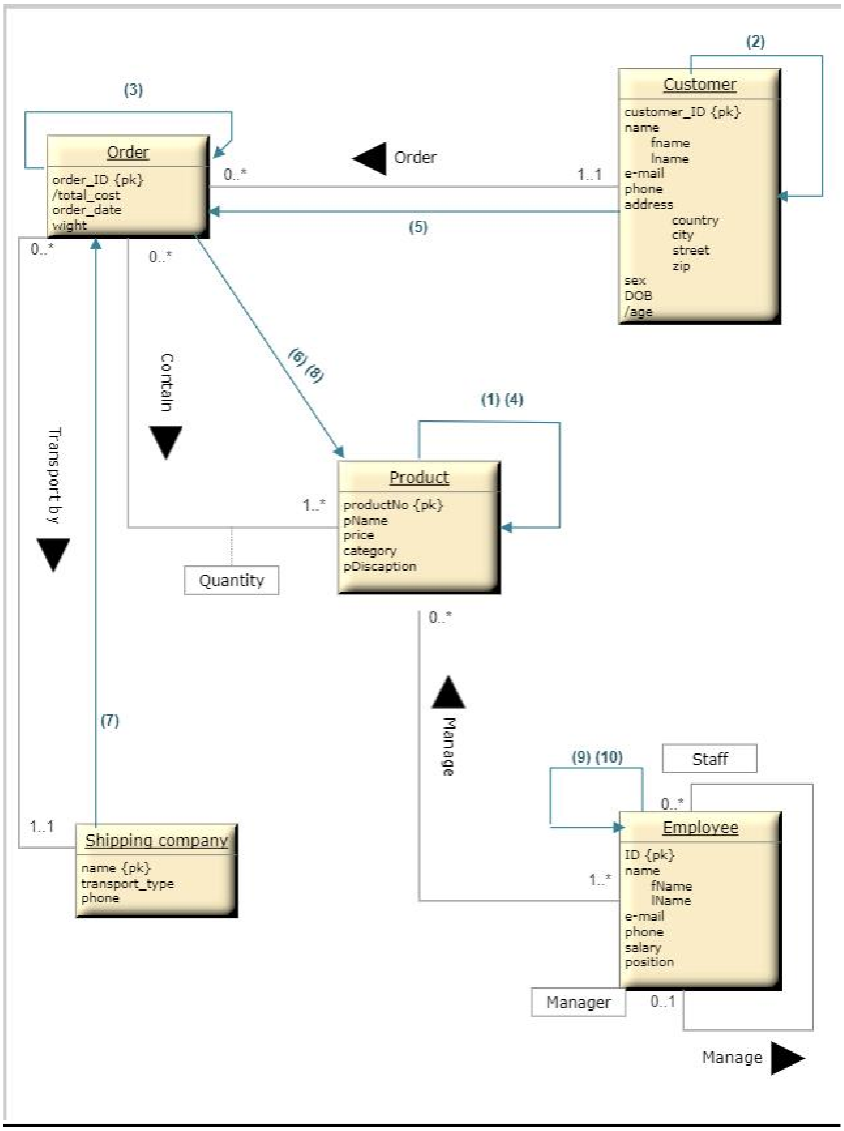
Transaction Pathway:



Relational Schema:

Order(order_ID , order date , wight, customerID, Shippingco_name)

Order_ Contents(order_ID , ProductNo , quantity)

Shipping Company (name , transport_type , phone)

Product (ProductNo , pName , price , category , pDescription)

Customer (customerID , fName , lName , e-mail , phone , country , city , street ,zip , sex , DOB)

Employee (ID , fName , lName , e-mail , phone , salary , postion, manger_ID)

Prouduct_managment(ProductNo , ID) //(ID reverence to Employee ID)

Normalization:

Order :

It is in 1NF as there is no repeating group

And It is in 2NF as there is no Partial dependency

And It is in 3NF as there is no transitive dependency

Order(order_ID , total_cost , order date , wight, customerID, Shippingco_name)

Order_ Contents :

It is in 1NF as there is no repeating group

And It is in 2NF as there is no Partial dependency

And It is in 3NF as there is no transitive dependency

Order_ Contents(order_ID , ProductNo , quantity)

Shipping Company :

It is in 1NF as there is no repeating group

And It is in 2NF as there is no Partial dependency

And It is in 3NF as there is no transitive dependency

Shipping Company (name , transport_type , phone)

Product:

It is in 1NF as there is no repeating group

And It is in 2NF as there is no Partial dependency

And It is in 3NF as there is no transitive dependency

Product (ProductNo , pName , price , category , pDescription)

Customer:

It is in 1NF as there is no repeating group

And It is in 2NF as there is no Partial dependency

And It is in 3NF as there is no transitive dependency

Customer (customerID , fName , lName , e-mail , phone , country , city , street ,zip , sex , DOB)

Employee:

It is in 1NF as there is no repeating group

And It is in 2NF as there is no Partial dependency

And It is in 3NF as there is no transitive dependency

Employee (ID , fName , lName , e-mail , phone , salary , postion, manger_ID)

Prouduct_managment :

It is in 1NF as there is no repeating group

And It is in 2NF as there is no Partial dependency

And It is in 3NF as there is no transitive dependency

Prouduct_managment(ProductNo , ID)

Data Dictionary showing description of all entities:

Entity Name	Description	Aliases	Occurrence
Order	Order is the operation to from specific products to buy it.		each order contain one or many products , and its ordered by one and only one customer and shipped by one and only one shipping company
Customer	A person who interested in buying different product by the application.		Customer can make many orders or no order.
Product	A product is the item offered for sale.		The product can be in one or more orders or non-orders and The product can be handled by one or many employees
Shipping company	This category is for companies concerned with freight transport.		The shipping company offers more than one order or does not make an order.
Employee	an individual who was hired by an employer to do a specific job.		each employee manage one or many orders or don't manage any order .

Data Dictionary showing description of all relationships:

Entity Name	Multiplicity	Relationship	Entity Name	Multiplicity
Customer	1..1	Order	Order	0..1
Order	0..* 0..*	Contain Transport by	Product Shipping Company	1..* 1..1
Employee	1..* 0..*	Manage Manage	product Employee	0..* 0..1

Data Dictionary showing description of all attributes:

Entity Name	Attribute	Description	Data Type	Length	Nulls	Multi-Valued	Default Value	Range	PK
Order	order_ID /total_cost order_date weight	ID number of the order Total cost of the order The order date The weight of order	Varchar Decimal Varchar Decimal	10 6,2 10 6,2					yes
Shipping company	name transport_type phone	Name of shippingCo Transport type of ShippingCo Phone number of ShippingCo	Varchar Varchar Integer	20 20					yes
Product	productNo pName price category pDiscarption	The product number The product name The product price The product category The product discerption	Integer Varchar Decimal Varchar Vachar	10 6,2 10 25					yes
Customer	customer_ID name fname lname e-mail phone address country city street zip sex DOB /age	ID number of customer first name of customer last name of customer customer e-mail Phone number of customer Country where the customer is in it City where the customer is in it Street where the customer is in it Zip of customer Sex of customer Date of birth of customer The age of customer	Varchar Varchar Varchar Varchar Varchar Varchar Varchar Varchar Varchar Varchar Varchar Integer	15 15 15 30 15 10 10 10 10 6 10		Yes Yes			yes

Entity Name	Attribute	Description	Data Type	Length	Nulls	Multi-Valued	Default Value	Range	PK
Employee	ID name fname lname e-mail phone salary position Maneger_ID	ID number of employee first name of employee last name of employee employee e-mail Phone number of employee The salary of employee Position of employee Manager ID of employee	Integer Varchar Varchar Varchar Varchar Decimal Varchar Varchar	 15 15 30 15 6,2 10 10	 Yes				yes

Work Distribution:

NAME	Percentage
Lama Ahmad Al Rasheed.	*20%*
Yasmeen Mansour Al Asker.	*20%*
Layan Ibrahim Al Dhuwayhi.	*20%*
Ranya Aaedh Alkhtani.	*20%*
Reema Abdulaziz Alomair.	*20%*

DB tables creation commands:

```
drop table Customer1;
create table Customer1(
customerID Varchar(15)NOT NULL,
fName Varchar(15)NOT NULL,
lName Varchar(15)NOT NULL,
e_mail Varchar(30)NOT NULL,
phone Varchar(15)NOT NULL,
country Varchar(10)NOT NULL,
city Varchar(10)NOT NULL,
street Varchar(10)NOT NULL,
zip Varchar(10)NOT NULL,
sex Varchar(6) ,
DOB Varchar(6),
primary key (customerID));

drop table Order2;

create table Order2(
order_ID varchar(10) NOT NULL,
order_date varchar(10)NOT NULL,
weight Decimal(6,2),
customerID varchar(15) NOT NULL,
Shippingco_name varchar(20) NOT NULL,
primary key (order_ID),
foreign key (customerID) references Customer1 (customerID),
foreign key (Shippingco_name) references Shipping_Company (S_name));



drop table Product_managment;

create table Product_managment(
ProductNo varchar(15) NOT NULL,
Employee_ID varchar(10) NOT NULL,
primary key (ProductNo,Employee_ID));

foreign key (ProductNo) references Product (ProductNo),
foreign key (Employee_ID) references Employee (Employee_ID));

drop table Employee1 ;

Create Table Employee1(
Employee_ID varchar(10) not null,
fName varchar(15) not null,
lName varchar(15) not null,
e_mail varchar(30) not null,
phone varchar(15) not null,
salary Decimal(6,2) not null,
postion varchar(10) not null,
manger_ID varchar(10),
primary key(Employee_ID));
```

```
drop table Order_Contents;
create table Order_Contents(
order_ID varchar(10) not null,
productNo varchar(15) not null,
quantity integer not null,
primary key(order_ID,productNo),
foreign key(order_ID) references order2 (order_ID) on delete cascade,
foreign key(productNo) references product (productNo) on delete cascade );

drop table Shipping_Company;
create table Shipping_Company (
S_name varchar(20) not null,
transport_type varchar(20) not null,
phone varchar(15) not null,
primary key(S_name));

DROP TABLE Product;
CREATE TABLE Product(
ProductNo varchar(15) NOT NULL ,
pName varchar(10) NOT NULL,
price Decimal(6,2) ,
category varchar(10) NOT NULL,
pDescription varchar(25) NOT NULL,
Qty Integer NOT NULL,
PRIMARY KEY(ProductNo));
```

Data insertion commands:

```
insert into product_managment values('1378','123');

insert into product_managment values ('1245','543');

insert into employee1 values('123','Lama','Ahmad','a@hotmail.com','050046872',2000,'Sales M','.');

insert into employee1 values('543','yasmeen','Ahmad','r@hotmail.com','050356462',500,'Sales M','.');

insert into Order2 values('O101', '2019-05-25',15.23,'1106893565','smsa');

insert into Order2 values('O102', '2019-04-20',13.5,'1106893565','smsa');

insert into Order_Contents values('O102', '1378',130);

insert into Order_Contents values('O101','1378',110);

insert into Shipping_Company values('smsa', 'car', '+966540000000');

insert into Shipping_Company values('wasel', 'plane', '+966541111111');

INSERT INTO Product values('1245','scarf',400,'clothes','Black color',50);

INSERT INTO Product values('1378','sneaker',376,'shoes','Blue color',70);

INSERT INTO customer1 values('1106893459','Yasmeen','alaskar','areej@hotmail.com','0505000000','KSA','Riyadh','King
abdullah','77896','Female', '2019-2');

INSERT INTO customer1
values('1106893565','Khalid','alahmed','kkk@gmail.com','0505008436','KSA','Riyadh','Olaya','11112','male','2019-3');
```

Data Queries commands and outputs:

1) Select *
From Product ;

PRODUCTNO	PNAME	PRICE	CATEGORY	PDESCRIPTION	QTY
1378	sneaker	376	shoes	Blue color	50
1245	scarf	400	clothes	Black color	50

2 rows selected

2) Select *
From customer1 ;

CUSTOMERID	FNAME	LNAME	E_MAIL	PHONE	COUNTRY	CITY	STREET	ZIP	SEX	DOB
1106893565	Khalid	alahmed	kkk@gmail.com	0505008436	KSA	Riyadh	Olaya	11112	male	2019-3
1106893459	Yasmeen	alaskar	areej@hotmail.com	0505000000	KSA	Riyadh	King fahad	77896	Female	2019-2

2 rows selected

3) Select *
from order2
where SHIPPINGCO_NAME = 'smsa' ;

EMPLOYEE_ID	FNAME	LNAME	E_MAIL	PHONE	SALARY	POSTION	MANGER_ID
123	Lama	Ahmad	a@hotmail.com	050046872	2000	Sales M	.
543	yasmeen	Ahmad	r@hotmail.com	050356462	500	Sales M	.

2 rows selected

4) Select *
From Employee1 ;

ORDER_ID	ORDER_DATE	WEIGHT	CUSTOMERID	SHIPPINGCO_NAME
0102	2019-04-20	13.5	1106893565	smsa
0101	2019-05-25	15.23	1106893565	smsa

2 rows selected