



AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH

Course: Introduction to Database

Project: **Food Delivery & Management System**

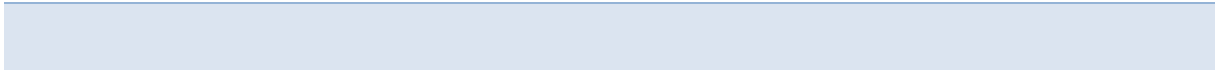


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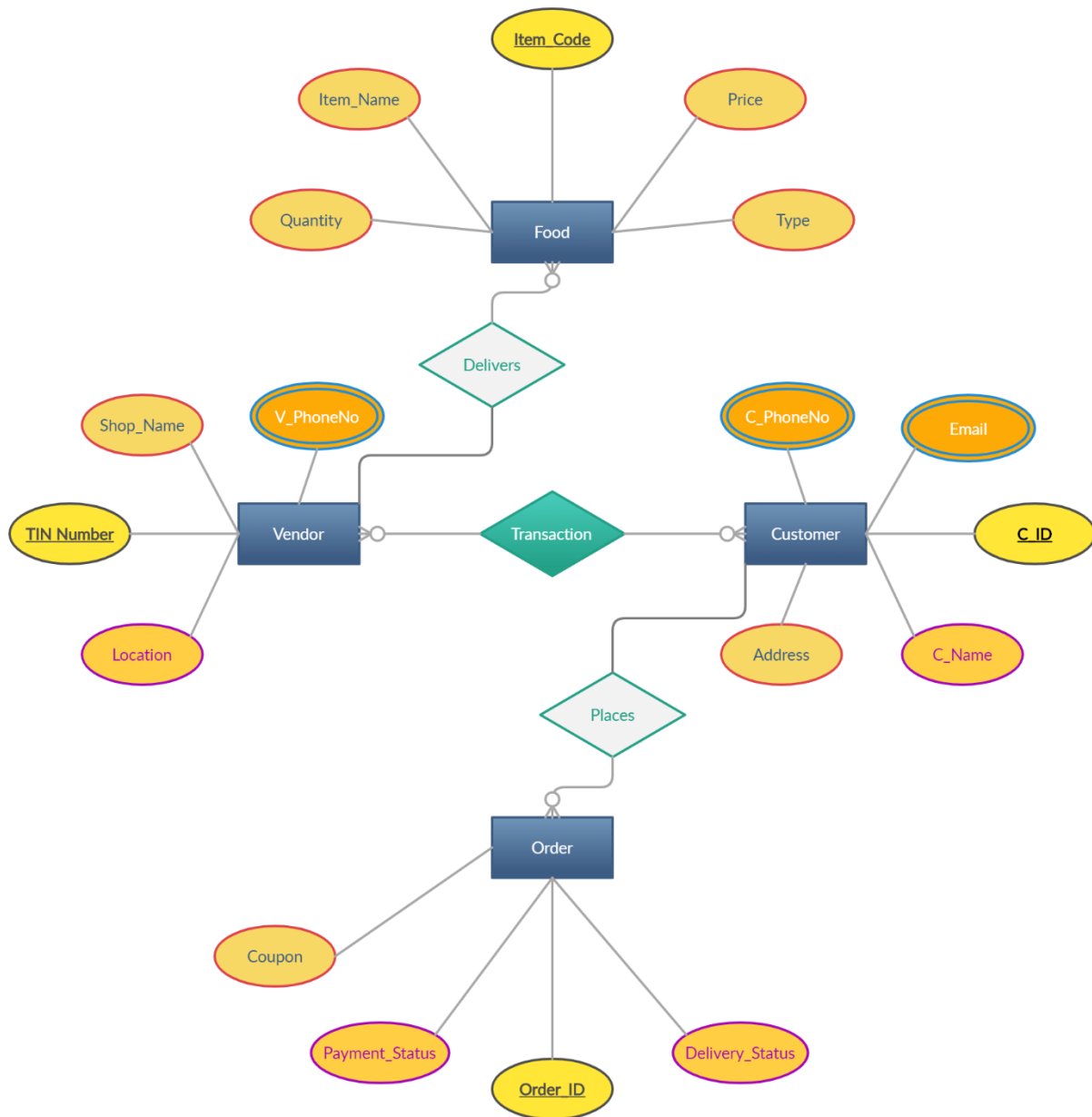
Introduction

Food delivery management system is a technique of ordering foods in online and applicable in any food delivery industry. The main advantage of this system is that it greatly simplifies the ordering process for both the customer and restaurant. This application helps the restaurant to do all functionalities more accurately and faster way. Food delivery management system reduces manual works and improves efficiency of restaurant. This software helps food orders to maintain day to day records in system.

Scenario Description

In a food delivery management system, the customer places their order staying at home or anywhere and delivery man deliver the food into the customer address. After receiving the order customer pays bill. Both the customer and the delivery man is identified by their Id. The system holds the basic information for both the Customer and Vendor; like name, phone number, address etc. So the relationship between the customer and the vendor is transaction. It also holds special attributes for each entity. When a customer places the order it holds key information of his or her in “Customer” entity. The system collects information like customer id, name, email, address, phone number. The vendor may also have the information is TIN number, Shop name, Location, phone number. When the customer places the order it holds the information about “Order” where coupon , payment , order id , delivery status are the attributes. Payment attribute holds cash on delivery and online payment. Then delivery status holds departure time and arrival time as attributes .As order entity has unique key calls order Id which describes that ever customer has unique id. Here customer and order has many to many relationship or called “places” Vendor delivers food where food system holds the information of item code, item name, type, quantity and price. Here vendor and food has one to many relationship called “Delivers”. There are some special attributes are called derived attributes like Phone number, email address. In our food delivery management system, ER-Diagram we have showed 2 relationships which are one to many and many to many, then we’ve also showed 4 entities which are Vendors, Customer, Order and Food.

ER-Diagram



Normalization

Delivers:

UNF:

delivers(TIN_Number, Shop_Name, V_PhoneNo, Location, Item_Code, Item_Name, Price, Quantity, Type)

1NF:

Here, V_Phone is multi valued attribute.

1. TIN_Number, Shop_Name, V_PhoneNo, Location, Item_Code, Item_Name, Price, Quantity, Type

2NF:

1. TIN_Number, Shop_Name, V_PhoneNo, Location
2. Item_Code, Item_Name, Price, Quantity, Type

3NF:

1. TIN_Number, Shop_Name, V_PhoneNo, Location
2. Item_Code, Type
3. Item_Name, Price, Quantity

Table Creation:

1. TIN_Number, Shop_Name, V_PhoneNo, Location
2. Item_Code, Type, **Price_ID**, **TIN_Number**
3. Price_ID, Item_Name, Price, Quantity

Places:

UNF:

places(C_ID, C_Name, Email, C_PhoneNo, Address, Order_ID, Delivery_Status, Payment_Status, Coupon)

1NF:

Here, Email and C_PhoneNo are multi valued attribute.

1. C_ID, C_Name, Email, C_PhoneNo,
Address, Order_ID, Delivery_Status, Payment_Status, Coupon

2NF:

1. C_ID, C_Name, Email, C_PhoneNo, Address
2. Order_ID, Delivery_Status, Payment_Status, Coupon

3NF:

1. C_ID, C_Name, Email, C_PhoneNo, Address
2. Order_ID, Coupon
3. Delivery_Status, Payment_Status

Table Creation:

1. C_ID, C_Name, Email, C_PhoneNo, Address
2. Order_ID, Coupon, **C_ID**
3. Delivery_ID, Delivery_Status, Payment_Status

Transaction:

UNF:

transaction(TIN_Number, Shop_Name, V_PhoneNo, Location, C_ID, C_Name,
Email, C_PhoneNo, Address)

1NF:

Here, V_PhoneNo, C_PhoneNo, Email are multi valued attribute.

1. TIN_Number, Shop_Name, V_PhoneNo, Location, C_ID, C_Name,
Email, C_PhoneNo, Address

2NF:

1. TIN_Number, Shop_Name, V_PhoneNo, Location
2. C_ID, C_Name, Email, C_PhoneNo, Address

3NF:

There is no transitive dependency. Relation already in 3NF

1. TIN_Number, Shop_Name, V_PhoneNo, Location
2. C_ID, C_Name, Email, C_PhoneNo, Address

Table Creation:

1. TIN_Number, Shop_Name, V_PhoneNo, Location
2. C_ID, C_Name, Email, C_PhoneNo, Address, **TIN_Number**

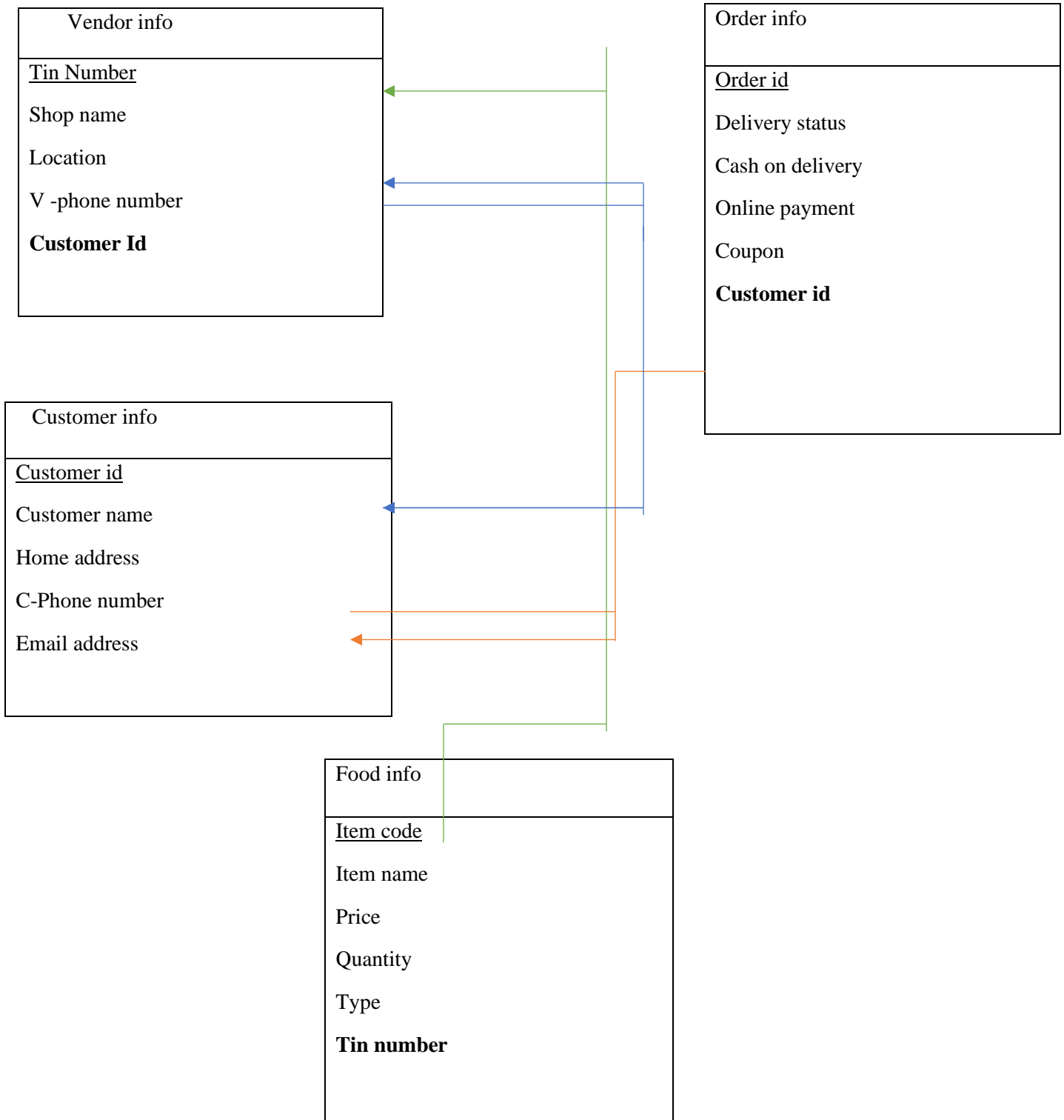
Temporary Table:

1. ~~TIN_Number, Shop_Name, V_PhoneNo, Location~~
2. Item_Code, Type, **Price_ID**, **TIN_Number**
3. Price_ID, Item_Name, Price, Quantity
4. ~~C_ID, C_Name, Email, C_PhoneNo, Address~~
5. Order_ID, Coupon, **C_ID**
6. Delivery_ID, Delivery_Status, Payment_Status
7. TIN_Number, Shop_Name, V_PhoneNo, Location
8. C_ID, C_Name, Email, C_PhoneNo, Address, **TIN_Number**

Final Table:

1. TIN_Number, Shop_Name, V_PhoneNo, Location- tin_info
2. C_ID, C_Name, Email, C_PhoneNo, Address, **TIN_Number**- customer_info
3. Item_Code, Type, **Price_ID**, **TIN_Number**- item
4. Order_ID, Coupon, **C_ID**- **order_info**
5. Delivery_ID, Delivery_Status, Payment_Status- delivery_info
6. Price_ID, Item_Name, Price, Quantity- item_info

Schema Diagram:



*Arrows point from foreign key to corresponding primary key.

Table Creation

```
create table tin_info(  
tin_number number (16),  
shop_name varchar2(14),  
v_phoneno number(15),  
location varchar2(22))  
desc tin_info
```

```
alter table tin_info add constraint ti1 primary key(tin_number)
```

```
alter table tin_info modify ( shop_name not null)
```

```
alter table tin_info modify (location not null)
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Command window contains the following commands:

```
create table tin_info(  
tin_number number(16),  
shop_name varchar2(14),  
v_phoneno number(15),  
location varchar2(22))  
desc tin_info  
  
alter table tin_info add constraint ti1 primary key(tin_number)  
alter table tin_info modify(shop_name not null)  
alter table tin_info modify(location not null)
```

The Results tab shows the table structure for **TIN_INFO**:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
TIN_INFO	TIN_NUMBER	Number	-	16	0	1	-	-	-
	SHOP_NAME	Varchar2	14	-	-	-	-	-	-
	V_PHONENO	Number	-	15	0	-	✓	-	-
	LOCATION	Varchar2	22	-	-	-	-	-	-

At the bottom right, it says "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

```
create table customer_info(  
c_id number (16),  
c_name varchar2(14),  
email varchar2(12),  
c_phoneno number(15),  
address varchar2(22)  
tin_number number(18))  
desc customer_info
```

```
alter table customer_info add constraint ci1 primary key(c_id)  
alter table customer_info modify ( c_name not null)  
alter table customer_info modify (email not null)  
alter table customer_info modify (address not null)
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following commands:

```
create table customer_info(  
c_id number(16),  
c_name varchar2(14),  
email varchar2(12),  
c_phoneno number(15),  
address varchar2(22),  
tin_number number(18))  
desc customer_info  
  
alter table customer_info add constraint ci1 primary key(c_id)  
alter table customer_info modify(c_name not null)  
alter table customer_info modify(email not null)  
alter table customer_info modify(address not null)
```

Below the commands, the 'Describe' tab is selected, showing the table structure for 'CUSTOMER_INFO':

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER_INFO	C_ID	Number	-	16	0	1	-	-	-
	C_NAME	Varchar2	14	-	-	-	-	-	-
	EMAIL	Varchar2	12	-	-	-	-	-	-
	C_PHONENO	Number	-	15	0	-	✓	-	-
	ADDRESS	Varchar2	22	-	-	-	-	-	-
	TIN_NUMBER	Number	-	18	0	-	✓	-	-

The bottom of the window shows the status bar with 'Language: en-gb' and 'Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.'

```
create table item(  
item_code number(16),  
type varchar2(14),  
price_id number(12),  
tin_number number(18))  
  
desc item
```

```
alter table item add constraint is primary key(item_code)  
alter table item modify ( type not null)
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Command window contains the following commands:

```
create table item(  
item_code number(16),  
type varchar2(14),  
price_id number(12),  
tin_number number(18))  
desc item  
  
alter table item add constraint is primary key(item_code)  
alter table item modify(type not null)
```

The Results tab shows the table structure for the 'ITEM' table:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ITEM	ITEM_CODE	Number	-	16	0	1	-	-	-
	TYPE	Varchar2	14	-	-	-	-	-	-
	PRICE_ID	Number	-	12	0	-	✓	-	-
	TIN_NUMBER	Number	-	18	0	-	✓	-	-

The bottom of the window shows the Windows taskbar with the time 10:50 PM on 9/22/2020.

```
create table order_info(  
order_id number(12),  
coupon number(10),  
c_id number(18)  
desc order_info  
alter table order_info add constraint oi2 primary key(order_id)
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following commands:

```
create table order_info(  
order_id number(12),  
coupon number(10),  
c_id number(18))  
desc order_info  
  
alter table order_info add constraint oi2 primary key(order_id)
```

The Results tab displays the table structure for **ORDER_INFO**:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ORDER_INFO	ORDER_ID	Number	-	12	0	1	-	-	-
	COUPON	Number	-	10	0	-	✓	-	-
	C_ID	Number	-	18	0	-	✓	-	-

At the bottom right, the status bar indicates: Application Express 2.1.0.00.39, Copyright © 1999, 2006, Oracle. All rights reserved.

```
alter table delivery_info add constraint di2 primary key(delivery_id)
alter table delivery_info modify (delivery_status not null)
alter table delivery_info modify(payment_status not null)
```

```
create table item_info(  
price_id number(12),  
item_name varchar2(20),  
price number(14),  
quantity number(22))  
desc item_info
```

```
alter table item_info add constraint ii2 primary key(price_id)  
alter table item_info modify (item_name not null)
```

The screenshot shows the Oracle Database Express Edition SQL Commands window. The SQL Commands tab is active, displaying the following commands:

```
create table item_info(  
price_id number(12),  
item_name varchar2(20),  
price number(14),  
quantity number(22))  
desc item_info  
alter table item_info add constraint ii2 primary key(price_id)  
alter table item_info modify (item_name not null)
```

The Results tab is selected, showing the table structure for the table **ITEM_INFO**. The table has four columns: **PRICE_ID**, **ITEM_NAME**, **PRICE**, and **QUANTITY**. The **PRICE_ID** column is the primary key.

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ITEM_INFO	PRICE_ID	Number	-	12	0	1	-	-	-
ITEM_INFO	ITEM_NAME	Varchar2	20	-	-	-	-	-	-
ITEM_INFO	PRICE	Number	-	14	0	-	✓	-	-
ITEM_INFO	QUANTITY	Number	-	22	0	-	✓	-	-

The status bar at the bottom indicates the application is Oracle Express 2.1.0.0.39, Copyright © 1999, 2006, Oracle. All rights reserved. The language is set to en-gb.

Data Insertion and Display Table

desc tin_info

insert into tin_info values (173544457, 'elclassico',197625365,
'14/a,mirpur,dhaka')

select* from tin_info

The screenshot shows the Oracle Database Express Edition web interface. The browser address bar shows the URL `127.0.0.1:8080/apex/f?p=4500:1003:4096340113838142::NO::`. The page title is "ORACLE Database Express Edition". The user is logged in as "SCOTT". The "SQL Commands" tab is active, showing the following commands:

```
desc tin_info
insert into tin_info values(173544457,'elclassico',197625365,'14/a,mirpur,dhaka')
select*
from tin_info
```

The "Results" tab is active, displaying the following table:

TIN_NUMBER	SHOP_NAME	V_PHONENO	LOCATION
173544457	elclassico	197625365	14/a,mirpur,dhaka

Below the table, it says "1 rows returned in 0.00 seconds" and "CSV Export". The footer of the interface shows "Language: en-gb" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved." The Windows taskbar at the bottom shows the time as 10:13 AM on 9/23/2020.

Desc customer_info

```
insert into customer_info values(615141, 'shawon',  
'sha21@gmail',19854423, '12/a mirpur,dhaka', 173544457)
```

```
insert into customer_info values (135641, 'nisat','nis41@gmail',  
17544423,'10/c gulsan, dhaka', 173544457)
```

Select* from customer_info

The screenshot shows the Oracle Database Express Edition web interface. At the top, it says "ORACLE Database Express Edition" with links for Home, Logout, and Help. Below this, it indicates the user is "SYSTEM". The breadcrumb navigation shows "Home > SQL > SQL Commands". The main area has a text input field with the following SQL commands:

```
Desc customer_info  
insert into customer_info values(615141, 'shawon', 'sha21@gmail',198654423, '12/a mirpur,dhaka', 173544457)  
insert into customer_info values (135641, 'nisat','nis41@gmail', 176544423,'10/c gulsan, dhaka', 173544457)  
  
Select* from customer_info
```

Below the input field, there are tabs for "Results", "Explain", "Describe", "Saved SQL", and "History". The "Describe" tab is selected, showing the table structure for "CUSTOMER_INFO".

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER_INFO	C_ID	Number	-	16	0	1	-	-	-
	C_NAME	Varchar2	14	-	-	-	-	-	-
	EMAIL	Varchar2	12	-	-	-	-	-	-
	C_PHONENO	Number	-	15	0	-	✓	-	-
	ADDRESS	Varchar2	22	-	-	-	-	-	-
	TIN_NUMBER	Number	-	18	0	-	✓	-	-

At the bottom right of the table, it says "1 - 6".

desc item

insert into item values (0022, 'fried_rice',280,173544457)

insert into item values(0011, 'milkshake', 180,173544457)

insert into item values(0044, 'faluda', 220, 173544457)

select* from item

The screenshot shows the Oracle Database Express Edition web interface. The browser address bar displays the URL `127.0.0.1:8080/apex/f?p=4500:1003:4096340113838142::NO::`. The page title is "ORACLE Database Express Edition" and the user is logged in as "SCOTT".

The "SQL Commands" section shows the following commands entered:

```
desc item  
  
insert into item values(0022,'fried_rice',280,173544457)  
insert into item values(0011,'milkshake',180,173544457)  
insert into item values(0044,'faluda',220,173544457)  
  
select*  
from item
```

The "Results" section displays the output of the last query, showing 3 rows returned in 0.00 seconds. The results are as follows:

ITEM_CODE	TYPE	PRICE_ID	TIN_NUMBER
22	fried_rice	280	173544457
11	milkshake	180	173544457
44	faluda	220	173544457

The footer of the interface shows "Application Express 2.1.0.00.39" and "Copyright © 1999, 2006, Oracle. All rights reserved."

desc order_info

insert into order_info values (7777,1111,615141)

insert into order_info values(8888,1112,135641)

select* from order_info

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following text:

```
desc order_info
insert into order_info values(7777,1111,615141)
insert into order_info values(8888,1112,135641)
select*
from order_info
```

Below the commands, the Results tab is active, displaying a table with the following data:

ORDER_ID	COUPON	C_ID
7777	1111	615141
8888	1112	135641

2 rows returned in 0.00 seconds

The bottom of the screenshot shows the Windows taskbar with the time 10:49 AM and date 9/23/2020.

desc delivery_info

insert into delivery_info values (575757, 'delivery successfully done','payment complete')

insert into delivery_info values (313131, 'delivery successfully done','payment complete')

Select* from delivery_info

The screenshot shows the Oracle Database Express Edition interface. The browser address bar indicates the URL: 127.0.0.1:8080/apex/f?p=4500:1003:4096340113838142::NO::... The page title is "ORACLE Database Express Edition". The user is logged in as "SCOTT". The "SQL Commands" window is active, showing the following SQL commands:

```
desc delivery_info
insert into delivery_info values(575757,'delivery successfully done','payment complete')
insert into delivery_info values(313131,'delivery successfully done','payment complete')
select*
from delivery_info
```

The "Results" tab is selected, displaying the following table:

DELIVERY_ID	DELIVERY_STATUS	PAYMENT_STATUS
575757	delivery successfully done	payment complete
313131	delivery successfully done	payment complete

Below the table, it states: "2 rows returned in 0.00 seconds" and provides a "CSV Export" link. The bottom status bar shows "Language: en-gb" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

desc item_info

insert into item_info values (6540,'white rice', 50,5)

insert into item_info values (9540, 'onion', 70,5)

insert into item_info values (8740, 'potato', 30, 5)

Select* from item_info

The screenshot shows the Oracle Database Express Edition interface. The browser address bar indicates the URL `127.0.0.1:8080/apex/f?p=4500:1003:4096340113838142::NO::`. The user is logged in as SCOTT. The SQL Commands window contains the following text:

```
desc item_info
insert into item_info values(6540,'white rice',50,5)
insert into item_info values(9540,'onion',70,10)
insert into item_info values(8740,'potato',30,5)
select*
from item_info
```

Below the SQL window, the results are displayed in a table:

PRICE_ID	ITEM_NAME	PRICE	QUANTITY
6540	white rice	50	5
9540	onion	70	10
8740	potato	30	5

At the bottom of the results section, it states: "3 rows returned in 0.00 seconds" with a "CSV Export" link. The footer of the application shows "Language: en-gb" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

Query Writing

Subquery-

1. Find the item which are expensive than Price_id= 170

Ans: Select * from item where price_id>170;

User: SYSTEM

Home > SQL > SQL Commands

☒ Autocommit Display ▼

```
select * from item where price_id > 170;
```

Results Explain Describe Saved SQL History

ITEM_CODE	TYPE	PRICE_ID	TIN_NUMBER
22	fried_rice	280	173544457
11	milkshake	180	173544457
44	faluda	220	173544457

3 rows returned in 0.02 seconds

[CSV Export](#)

2.Find the customer whose id is 615141

Ans: Select * from customer_info where c_id=615141;

ORACLE Database Express Edition

User: SYSTEM

Home > SQL > SQL Commands

☒ Autocommit Display: 10

```
select * from customer_info where c_id = 615141;
```

Results Explain Describe Saved SQL History

C_ID	C_NAME	EMAIL	C_PHONENO	ADDRESS	TIN_NUMBER
615141	sharon	sha21@gmail	198654423	12/a mirpur dhaka	173544457

1 rows returned in 0.00 seconds [CSV Export](#)

Joining-

1. display the c_id, name, phoneno of the customer whose id is 615141

Ans: Select c_id, c_name, c_phoneno from customer_info where c_id=615141;

User: SYSTEM

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

```
select c_id, c_name, c_phoneno from customer_info where c_id = 615141;
```

Results Explain Describe Saved SQL History

C_ID	C_NAME	C_PHONENO
615141	shawon	198654423

1 rows returned in 0.02 seconds

[CSV Export](#)

2.display all the infromation of item_info

Ans: Select * from item_info;

ORACLE Database Express Edition

User SYSTEM

Home > SQL > SQL Commands

☒ Autocommit Display 10

Select * from item_info;

Results Explain Describe Saved SQL History

PRICE_ID	ITEM_NAME	PRICE	QUANTITY
6540	white rice	50	5
9540	onion	70	5
8740	potato	30	5

3 rows returned in 0.02 seconds [CSV Export](#)

View-

1.create a view named branch which will display name,quantity,price and price_id = 65402.

Ans: CREATE VIEW branch AS

SELECT item_name, quantity, price

FROM item_info

WHERE price_id=65402;

User: SYSTEM

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

```
CREATE VIEW branch AS  
SELECT item_name, quantity, price  
FROM item_info  
WHERE price_id = 6540;  
select * From item_info
```

Results Explain Describe Saved SQL History

ITEM_NAME	QUANTITY	PRICE
white rice	5	50

1 rows returned in 0.00 seconds

[CSV Export](#)

2. Delete the view 'branch'.

Ans: DROP VIEW branch

ORACLE Database Express Edition

User: SYSTEM

Home > SQL > SQL Commands

☒ Autocommit Display 10

DROP VIEW branch;

Results Explain Describe Saved SQL History

ORA-00942: table or view does not exist

0.42 seconds

Relational Algebra

1. show item cheaper than 180 taka.

Ans: $\Pi_{TYPE} (\sigma_{PRICE_ID < 180} (item))$

2. show item names expensive than 180 taka

Ans: $\Pi_{TYPE} (\sigma_{PRICE_ID > 180} (item))$

3. Find the item name of the item whose QUANTITY is 10.

Ans: $\Pi_{ITEM_NAME} (\sigma_{QUANTITY = "10"} (item_info))$

4. show item names expensive than 110 taka

Ans: $\Pi_{TYPE} (\sigma_{PRICE_ID > 110} (item))$

5. Find the price of the item whose QUANTITY is 10.

Ans: $\Pi_{Price} (\sigma_{QUANTITY = "10"} (item_info))$

Conclusion

Our project is based on Online food delivery management system. In our project we have tried our best to create a model that will allow our system to store data and all the other information that is related to online food delivery management system. It is well tested and we assure our customer that it will be free from all sorts of anomalies. The main advantage of this system is that it greatly simplifies the ordering process for both the customer and restaurant. Besides they can get different types of specific information about the food which they want. And because of online delivery they can get their food at home. And there have also includes cash on delivery or online payment. Which is easier for any new users.

