

# INTRODUCTION TO DATABASE

Project: Fruit Buisness

Course instructor: **KAWSER IROM RUSHEE**  
Department: CSE  
Section: E  
E-mail: [rushee@aiub.edu](mailto:rushee@aiub.edu)

Group Member	ID
1.Estiyak Rubaiat	22-47210-1
2.Jahir Uddin Mohammad Babar	22-47213-1
3. Raiful Islam Efti	22-47141-1
4. FAREAL TANVEER FAHIM	22-46025-1

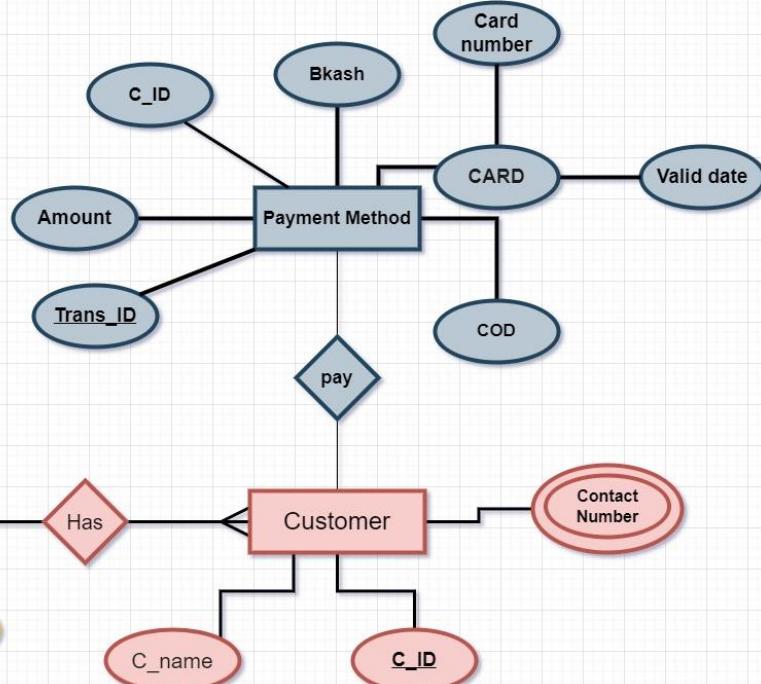
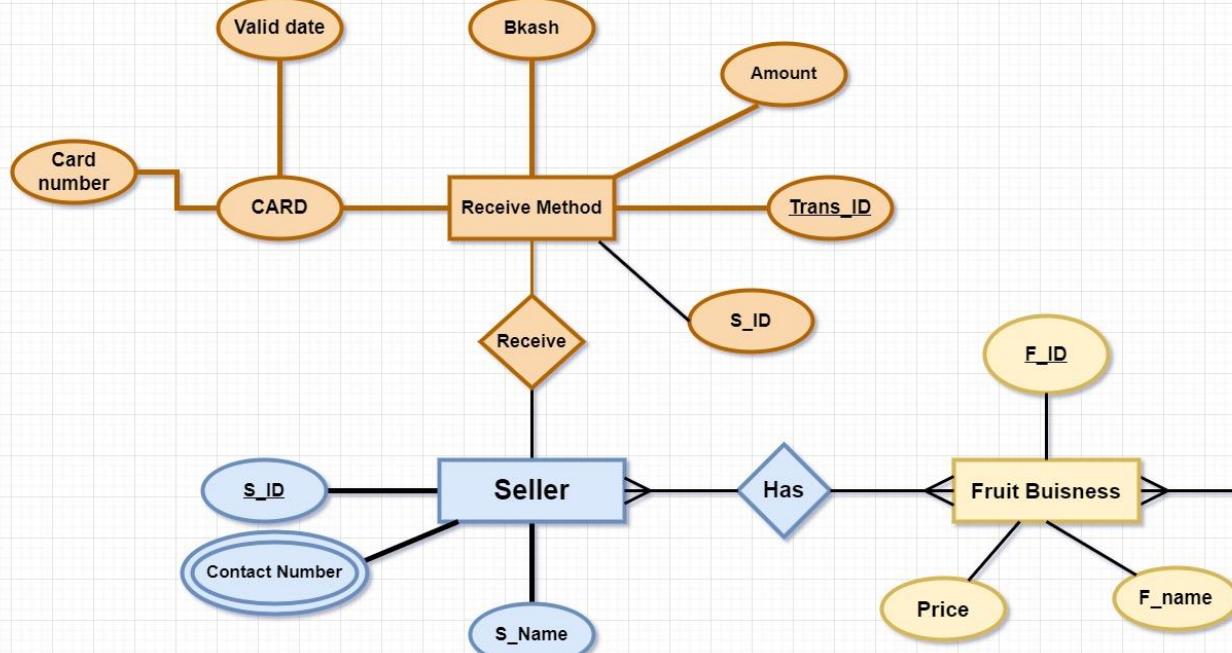
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## CASE SCENARIO:

A system is decorated for fruit businesses to make people healthy and happy. The fruit business has two sides. One is the seller & other is customer. In this scenario, SCENARIO: A system is decorated for fruit businesses to make people healthy and happy. The fruit business has two sides. One is the seller & other is customer. In this scenario, Seller, Fruit Business, Customer, Receive Method, Payment Method. The entity set seller has attributes of s\_id, Contact Number, and s\_Name. The customer must have c\_name, c\_id, and contact number. Customers must pay for buying fruits. There is one method for this condition is a payment method in which the total attributes are trans\_ID, amount, Bkash, valid date, and card number. Business means a way of a platform of economic condition. The attributes are fruit business platform f\_id, price, and f\_name.seller is linked strongly with customers to the transaction system. The seller must be in relation with receive circumstances method to survive with the business., Fruit Business, Customer, ReceiveMethod, Payment Method. The entity set seller has attributes of s\_id, Contact Number, and s\_Name. The customer must have c\_name,c\_id, and contact number. Customers must pay for buying fruits. There is one method for this condition payment method which total attributes are trans\_ID, amount, Bkash, valid date, and card number. Business means a way of a platform of economic conditions. The attributes are fruit business platform f\_id, price, and f\_name. Sellers are linking strongly with customers to the transaction system. The seller must be in relation with receive circumstances method to survive with the business.

# ER Diagram:



# NORMALIZATION

## FRUIT BUSINESS HAS SELLER

### UNF:

- 1<sup>st</sup>: SID, Contact Number, S\_Name, FID, Price, F\_Name

### 1NF:

- 1<sup>st</sup>: SID, Contact Number, S\_Name, FID, Price, F\_Name

### 2NF:

- 1<sup>st</sup> : Fid, F\_Name, Price
- 2<sup>nd</sup>: SID, S\_Name
- 3<sup>rd</sup>: SID, contactNumber
- 4<sup>th</sup>: contactNumber, S\_name
- 5<sup>th</sup>: SID, FID

### 3NF :

- 1<sup>st</sup> : Fid, F\_Name
- 2<sup>nd</sup>: SID, S\_Name
- 3<sup>rd</sup>: SID, contactNumber
- 4<sup>th</sup>: contactNumber, S\_name
- 5<sup>th</sup>: SID, FID
- 6<sup>th</sup>: FID, Price

## FRUIT BUSINESS HAS CUSTOMER:

### UNF:

- 1<sup>st</sup>: FID, Price, F\_Name, C\_name, C\_ID, Contact Number

### 1NF:

- 1<sup>st</sup>: FID, Price, F\_Name, C\_name, CID, Contact Number

### 2NF:

- 1<sup>st</sup> : CID, Contact Number
- 2<sup>nd</sup>: C\_name, CID
- 3<sup>rd</sup>: Contact Number, C\_name
- 4<sup>th</sup>: FID, Price, F\_Name
- 5<sup>th</sup>: FID, CID

### 3NF:

- 1<sup>st</sup> : CID, Contact Number
- 2<sup>nd</sup>: C\_name, CID
- 3<sup>rd</sup>: Contact Number, C\_name
- 4<sup>th</sup>: FID, Price
- 5<sup>th</sup>: FID, F\_Name
- 6<sup>th</sup>: FID, CID

# NORMALIZATION

## CUSTOMER PAY PAYMENT METHOD:

### UNF:

- 1<sup>st</sup>: C\_name,C\_ID,Contact Number, Trans\_ID ,Amount,Bkash,Card number,Valid date

### 1NF:

- 1<sup>st</sup>: C\_name,C\_ID,Contact Number, Trans\_ID ,Amount,Bkash,Card number,Valid date

### 2NF:

- 1<sup>st</sup> : CID ,Contact Number
- 2<sup>nd</sup>: C\_name,CID
- 3<sup>rd</sup>: Contact Number ,C\_name
- 4<sup>th</sup>: TransId ,Amount,Card Number,valid date,COD
- 5<sup>th</sup>: CID,TransId

### 3NF:

- 1<sup>st</sup> : CID ,Contact Number
- 2<sup>nd</sup>: C\_name,CID
- 3<sup>rd</sup>: Contact Number , C\_name
- 4<sup>th</sup>: TransId ,Amount
- 5<sup>th</sup>: TransId ,COD
- 6<sup>th</sup>: Card Number,valid date
- 7<sup>th</sup>: CID,TransId

## SELLER RECEIVE RECEIVE METHOD:

### UNF:

- 1<sup>st</sup>: SID , Contact Number,S\_Name, Trans\_ID ,Amount,Bkash,Card number,Valid date

### 1NF:

- 1<sup>st</sup>: SID , Contact Number ,S\_Name, Trans\_ID ,Amount,Bkash,Card number,Valid date

### 2NF:

- 1<sup>st</sup> : SID , Contact Number
- 2<sup>nd</sup>: SID ,S\_name
- 3<sup>rd</sup>: Contact Number ,S\_name
- 4<sup>th</sup>: TransId ,Amount,Card Number,valid date,COD
- 5<sup>th</sup>: CID,TransId

### 3NF:

- 1<sup>st</sup> : SID , Contact Number
- 2<sup>nd</sup>: SID ,S\_name
- 3<sup>rd</sup>: Contact Number , S\_name
- 4<sup>th</sup>: TransId ,Amount
- 5<sup>th</sup>: TransId ,COD
- 6<sup>th</sup>: Card Number,valid date
- 7<sup>th</sup>: CID,TransId

# *NORMALIZATION*

## **FINAL TABLE:**

1<sup>st</sup> :Fid, F\_Name

2<sup>nd</sup>: SID,S\_Name

3<sup>rd</sup>:SID, contactNumber

4<sup>th</sup>:contactNumber, S\_name

5<sup>th</sup>: SID, FID

6<sup>th</sup>:FID,Price

7<sup>th</sup>:CID,Contact Number

8<sup>th</sup>: C\_name,CID

9<sup>th</sup>: Contact Number , C\_name

10<sup>th</sup>:FID,CID

11<sup>th</sup>: TransId ,Amount

12<sup>th</sup>:TransId ,COD

13<sup>th</sup>:Card Number,valid date

14<sup>th</sup>:CID,TransId

## Table Creation:

### Fruit Buisness

```
create table Fruit_buisness (F_ID number(2) primary key, F_name varchar2(32),  
Price number(11));
```

The screenshot shows the Oracle Database Express Edition interface. The title bar indicates the connection is to '127.0.0.1:8080/apex/f?p=4500:1003:2241271529133695::NO::'. The main area displays the SQL command for creating the 'Fruit\_buisness' table. The command is:

```
create table Fruit_buisness (F_ID number(2) primary key, F_name varchar2(32), Price number(11));  
describe fruit_buisness;
```

Below the command, there is a 'Results' tab which shows the table structure for 'FRUIT\_BUINNESS' with three columns: F\_ID, F\_NAME, and PRICE.

Results Explain Describe Saved SQL History

Object Type TABLE Object FRUIT\_BUINNESS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
FRUIT_BUINNESS	F_ID	Number	-	2	0	1	-	-	-
	F_NAME	Varchar2	32	-	-	-	✓	-	-
	PRICE	Number	-	11	0	-	✓	-	-
1 - 3									

## Customer

create table Customer (C\_ID number(2) primary key, C\_name varchar2(32), Contact\_Number number(11));

The screenshot shows the Oracle Database Express Edition interface. The title bar indicates the user is connected as 'User: SYS'. The main area displays the SQL command to create the 'Customer' table:

```
create table Customer (C_ID number(2) primary key, C_name varchar2(32), Contact_Number number(11));
describe Customer;
```

The 'Run' button is visible at the top right of the code editor. Below the code, there is a large empty space where the results would be displayed.

Results Explain Describe Saved SQL History

Object Type TABLE Object CUSTOMER

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER	C_ID	Number	-	2	0	1	-	-	-
	C_NAME	Varchar2	32	-	-	-	✓	-	-
	CONTACT_NUMBER	Number	-	11	0	-	✓	-	-
1 - 3									

Language: en-us

Application Express 2.1.0.00.39

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## Seller

```
create table Seller(S_ID number(2) primary key, S_name varchar2(32),  
Contact_Number number(11));
```

The screenshot shows the Oracle Database Express Edition interface. The top navigation bar includes links for SQL Commands, Bangla Database Tutorial 45, Untitled Diagram.drawio, Sign in - GitLab, have has relation in diagram - Yo, Gmail, pirate, Govt Scholar, YouTube, LinkedIn Profile, Estiyak-nubs (Estiya...), Home | LightOJ, Navigation - Algorit..., Codeforces, Stoptalks, কম্পিউটার শেকা..., speedtest.googlefib..., chromepass free do..., Google Translate, Maps, SAT Subject Tests, and more.

The main area displays the SQL command:

```
create table Seller (S_ID number(2) primary key, S_name varchar2(32), Contact_Number number(11));
```

Below the command, the `describe seller;` command is shown.

The results section shows the table structure:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SELLER	S_ID	Number	-	2	0	1	-	-	-
	S_NAME	Varchar2	32	-	-	-	✓	-	-
	CONTACT_NUMBER	Number	-	11	0	-	✓	-	-

At the bottom, the page footer indicates Language: en-us, Application Express 2.1.0.00.39, and Copyright © 1999, 2006, Oracle. All rights reserved.

## Payment Method

```
create table Payment_method(Trans_ID number(7) primary key, Card_Number  
Number(14), Vaild date, Bkash number(11),Amount number(5) default(0));  
Alter table payment_method add(C_id Number(3));
```

The screenshot shows the Oracle Application Express SQL Commands interface. The SQL code entered is:

```
create table Payment_method(Trans_ID number(7) primary key, Card_Number Number(14), Vaild date, Bkash number(11),Amount number(5) default(0));  
Alter table payment_method add(C_id Number(3));  
  
describe Payment_method;
```

The results section displays the table structure:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
PAYMENT_METHOD	TRANS_ID	Number	-	7	0	1	-	-	-
	CARD_NUMBER	Number	-	14	0	-	✓	-	-
	VAILD	Date	7	-	-	-	✓	-	-
	BKASH	Number	-	11	0	-	✓	-	-
	AMOUNT	Number	-	5	0	-	-	(0)	-
	C_ID	Number	-	3	0	-	✓	-	-

Page footer: Application Express 2.1.0.00.39

## Receive Method

```
create table Receive_method(Trans_ID number(7) primary key, Card_Number  
Number(14), Vaild date, Bkash number(11),Amount number(5) default(0));  
Alter table Receive_method add(S_id Number(3));
```

The screenshot shows the Oracle Application Express SQL Commands interface. The SQL code entered is:

```
create table Receive_method(Trans_ID number(7) primary key, Card_Number Number(14), Vaild date, Bkash number(11),Amount number(5) default(0));  
Alter table Receive_method add(S_id Number(3));
```

Below the code, the command `describe Receive_method` is present. The interface includes standard controls like Autocommit checked, Display 100, Save, and Run buttons. Below the main area, there are tabs for Results, Explain, Describe, Saved SQL, and History. The Results tab is selected, showing the table structure:

Object Type TABLE Object RECEIVE\_METHOD

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
RECEIVE_METHOD	TRANS_ID	Number	-	7	0	1	-	-	-
	CARD_NUMBER	Number	-	14	0	-	✓	-	-
	VAILD	Date	7	-	-	-	✓	-	-
	BKASH	Number	-	11	0	-	✓	-	-
	AMOUNT	Number	-	5	0	-	✓	(0)	-
	S_ID	Number	-	3	0	-	✓	-	-

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

## DATA INSERTION

Fruit Buisness

```
insert into Fruit_buisness(F_ID, F_name, Price) Values (01,'Mango', 170);
insert into Fruit_buisness(F_ID, F_name, Price) Values (02,'Apple', 340);
insert into Fruit_buisness(F_ID, F_name, Price) Values (03,'Jackfruit', 70);
insert into Fruit_buisness(F_ID, F_name, Price) Values (04,'Guava', 65);
insert into Fruit_buisness(F_ID, F_name, Price) Values (05,'Orange', 80);
```

The screenshot shows the Oracle Database Express Edition interface. In the top navigation bar, there are tabs for Home, Gmail, pirate, Govt Scholar, YouTube, LinkedIn Profile, Estiyak-rubs (Estiya...), Home | LightOJ, Navigation - Algorit..., Codeforces, Stoptalks, কম্পিউটার চোরা..., speedtest.googlefib..., chromepass free do..., Google Translate, Maps, SAT Subject Tests ..., and Help. Below the navigation bar, it says "User: SYS". The main area has a title "ORACLE Database Express Edition". The "SQL Commands" section contains the provided SQL code. The "Results" section displays the inserted data in a table.

**SQL Commands**

```
insert into Fruit_buisness(F_ID, F_name, Price) Values (01,'Mango', 170);
insert into Fruit_buisness(F_ID, F_name, Price) Values (02,'Apple', 340);
insert into Fruit_buisness(F_ID, F_name, Price) Values (03,'Jackfruit', 70);
insert into Fruit_buisness(F_ID, F_name, Price) Values (04,'Guava', 65);
insert into Fruit_buisness(F_ID, F_name, Price) Values (05,'Orange', 80);

select * from Fruit_buisness;
```

**Results**

F_ID	F_NAME	PRICE
1	Mango	170
2	Apple	340
3	Jackfruit	70
4	Guava	65
5	Orange	80

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

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Language: en-us Copyright © 1999, 2006, Oracle. All rights reserved.  
22°C Haze ENG 12:09 AM

## Customer

```
insert into Customer (C_ID, C_name , Contact_Number) values (101,'Rahim',01711111111);
insert into Customer (C_ID, C_name , Contact_Number) values (102,'Karim',01712222222);
insert into Customer (C_ID, C_name , Contact_Number) values (103,'Judu',01733333333);
insert into Customer (C_ID, C_name , Contact_Number) values (104,'Kudu',01744444444);
insert into Customer (C_ID, C_name , Contact_Number) values (105,'Mohdu',01755555555);
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window displays the following SQL code:

```
insert into Customer (C_ID, C_name , Contact_Number) values (101,'Rahim',01711111111);
insert into Customer (C_ID, C_name , Contact_Number) values (102,'Karim',01712222222);
insert into Customer (C_ID, C_name , Contact_Number) values (103,'Judu',01733333333);
insert into Customer (C_ID, C_name , Contact_Number) values (104,'Kudu',01744444444);
insert into Customer (C_ID, C_name , Contact_Number) values (105,'Mohdu',01755555555);

select * from Customer;
```

The results section shows a table with the following data:

C_ID	C_NAME	CONTACT_NUMBER
101	Rahim	17111111111
105	Mohdu	17555555555
104	Kudu	17444444444
103	Judu	17333333333
102	Karim	17122222222

At the bottom, it says "5 rows returned in 0.00 seconds" and there is a "CSV Export" link.

At the very bottom, the status bar shows: Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

## Seller

```
insert into Seller (s_ID, s_name , Contact_Number) values (11,'Mr. X',018111111111);
insert into Seller (s_ID, s_name , Contact_Number) values (22,'Mr. Y',015122222222);
insert into Seller (s_ID, s_name , Contact_Number) values (33,'Mr. Z',016333333333);
insert into Seller (s_ID, s_name , Contact_Number) values (44,'Mr. K',013444444444);
insert into Seller (s_ID, s_name , Contact_Number) values (55,'Ms. X',019555555555);
```

The screenshot shows the Oracle Application Express (APEX) interface for executing SQL commands. The top navigation bar includes links for SQL Commands, Untitled Diagram.drawio, Sign in - GitLab, and BABA-রাবা | Baba Kotodin De. The browser tabs show various links like Gmail, pirate, Govt Scholar, YouTube, LinkedIn Profile, Estiyak-rubs (Estiya..., Home | LightOJ, Navigation - Algorit..., Codeforces, Stoptalks, কম্পিউটার গোয়া..., speedtest.googlefib..., chromepass free do..., Google Translate, Maps, SAT Subject Tests J..., and User: SYS.

The main content area displays the SQL code entered:

```
insert into Seller (s_ID, s_name , Contact_Number) values (11,'Mr. X',018111111111);
insert into Seller (s_ID, s_name , Contact_Number) values (22,'Mr. Y',015122222222);
insert into Seller (s_ID, s_name , Contact_Number) values (33,'Mr. Z',016333333333);
insert into Seller (s_ID, s_name , Contact_Number) values (44,'Mr. K',013444444444);
insert into Seller (s_ID, s_name , Contact_Number) values (55,'Ms. X',019555555555);

select * from seller;
```

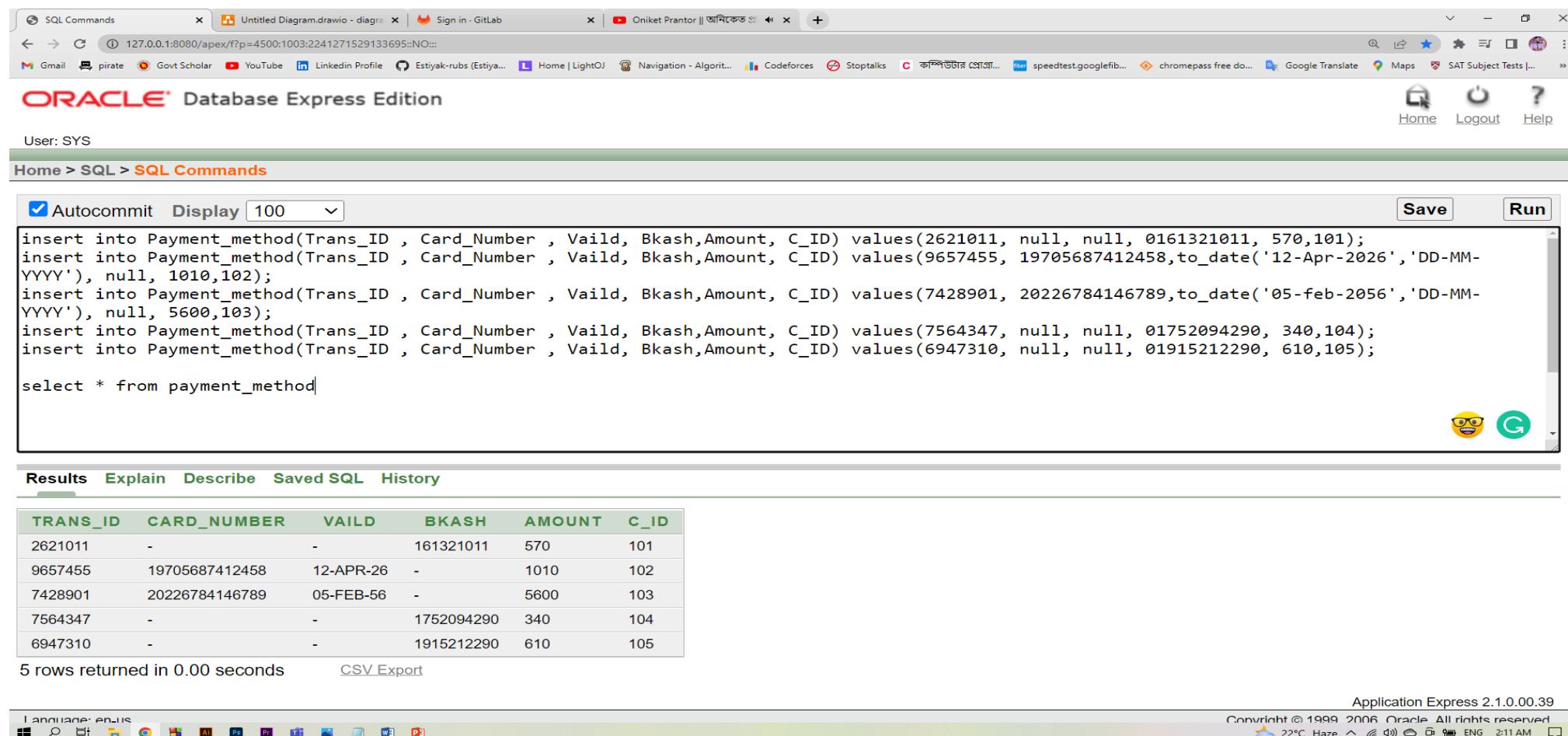
Below the code, there are two buttons: Save and Run. A red circle with the number 10 is visible in the bottom right corner of the code editor. The Results tab is selected, showing the following table:

S_ID	S_NAME	CONTACT_NUMBER
11	Mr. X	181111111111
22	Mr. Y	151222222222
33	Mr. Z	163333333333
44	Mr. K	134444444444
55	Ms. X	195555555555

At the bottom, it says "5 rows returned in 0.00 seconds" and provides a "CSV Export" link. The footer includes the text "Application Express 2.1.0.00.39", "Language: en-us", "Copyright © 1999, 2006, Oracle. All rights reserved.", and a system status bar showing "22°C Haze ⚡ ENG 1:09 AM".

## Payment\_method

```
insert into Payment_method(Trans_ID , Card_Number , Vaild, Bkash,Amount, C_ID) values(2621011, null, null, 0161321011, 570,101);
insert into Payment_method(Trans_ID , Card_Number , Vaild, Bkash,Amount, C_ID) values(9657455, 19705687412458,to_date('12-Apr-2026','DD-MM-YYYY'), null, 1010,102);
insert into Payment_method(Trans_ID , Card_Number , Vaild, Bkash,Amount, C_ID) values(7428901, 20226784146789,to_date('05-feb-2056','DD-MM-YYYY'), null, 5600,103);
insert into Payment_method(Trans_ID , Card_Number , Vaild, Bkash,Amount, C_ID) values(7564347, null, null, 01752094290, 340,104);
insert into Payment_method(Trans_ID , Card_Number , Vaild, Bkash,Amount, C_ID) values(6947310, null, null, 01915212290, 610,105);
```



The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the provided SQL code. The code inserts six rows into the Payment\_method table. The 'Run' button is visible at the top right of the code editor. Below the code, the 'Results' tab is selected, displaying a table with the inserted data. The table has columns: TRANS\_ID, CARD\_NUMBER, VAILD, BKASH, AMOUNT, and C\_ID. The results show five rows of data, with the sixth row being a header for the results.

TRANS_ID	CARD_NUMBER	VAILD	BKASH	AMOUNT	C_ID
2621011	-	-	161321011	570	101
9657455	19705687412458	12-APR-26	-	1010	102
7428901	20226784146789	05-FEB-56	-	5600	103
7564347	-	-	1752094290	340	104
6947310	-	-	1915212290	610	105

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

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22°C Haze ENG 2:11 AM

## Receive\_method

```
insert into Receive_method(Trans_ID , Card_Number , Vaild, Bkash,Amount,S_ID) values(2621011, 19705687416300,to_date('12-Dec-2026','DD-MM-YYYY'),  
null, 570,11);  
insert into receive_method(Trans_ID , Card_Number , Vaild, Bkash,Amount,s_ID) values(9657455, 20005687412458,to_date('25-feb-2036','DD-MM-YYYY'),  
null, 1010,22);  
insert into Receive_method(Trans_ID , Card_Number , Vaild, Bkash,Amount,S_ID) values(7428901, 20226784146789,to_date('05-may-2056','DD-MM-  
YYYY'), null, 5600,55);  
insert into receive_method(Trans_ID , Card_Number , Vaild, Bkash,Amount,S_ID) values(7564347, null, null, 01778573511, 340,33);  
insert into receive_method(Trans_ID , Card_Number , Vaild, Bkash,Amount,S_ID) values(6947310, null, null, 01587947638, 610,44);
```

The screenshot shows the Oracle Database Express Edition interface. The user is connected as 'SYS'. The SQL Commands page displays the five INSERT statements and a SELECT statement. The results section shows a table with six columns: TRANS\_ID, CARD\_NUMBER, VAILD, BKASH, AMOUNT, and S\_ID. The data returned is:

TRANS_ID	CARD_NUMBER	VAILD	BKASH	AMOUNT	S_ID
2621011	19705687416300	12-DEC-26	-	570	11
9657455	20005687412458	25-FEB-36	-	1010	22
7428901	20226784146789	05-MAY-56	-	5600	55
7564347	-	-	1778573511	340	33
6947310	-	-	1587947638	610	44

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

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Language: English

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22°C Haze

## Equijoin 1

**Q.** Display all information between Customer and Payment Method

**Ans:** select C.C\_ID , C.C\_name, C.Contact\_Number, P.Trans\_ID, P.Amount from Customer C , Payment\_method P where C.C\_ID = P.C\_ID;

The screenshot shows the Oracle Database Express Edition interface. The user is logged in as 'User: SYS'. The current page is 'Home > SQL > SQL Commands'. In the SQL editor, the following query is entered:

```
select C.C_ID , C.C_name, C.Contact_Number, P.Trans_ID, P.Amount from Customer C , Payment_method P where C.C_ID = P.C_ID;
```

Below the query, the command 'describe payment\_method' is also present. The results tab is selected, showing the following table:

C_ID	C_NAME	CONTACT_NUMBER	TRANS_ID	AMOUNT
101	Rahim	1711111111	2621011	570
102	Karim	1712222222	9657455	1010
103	Judu	1733333333	7428901	5600
104	Kudu	1744444444	7564347	340
105	Mohdu	1755555555	6947310	610

At the bottom, it says '5 rows returned in 0.00 seconds' and 'CSV Export'. The status bar at the bottom right shows the date and time as '24°C Sunny 11:00 AM'.

## Equijoin 2

Q. Display all information between Customer and Seller

**Ans:** select C.C\_ID "CUSTOMER ID" , C.C\_name "CUSTOMER",S.S\_name "RECEVIER",S.S\_ID "SELLER ID", P.Trans\_ID, P.Amount from Customer C , Payment\_method P ,Seller S , Receive\_method R where C.C\_ID = P.C\_ID AND P.Trans\_ID = R.Trans\_ID AND S.S\_ID =R.S\_ID;

The screenshot shows the Oracle Database Express Edition interface. The user is logged in as 'SYS'. The SQL command entered is:

```
select C.C_ID "CUSTOMER ID" , C.C_name "CUSTOMER",S.S_name "RECEVIER",S.S_ID "SELLER ID", P.Trans_ID, P.Amount from Customer C , Payment_method P ,Seller S , Receive_method R where C.C_ID = P.C_ID AND P.Trans_ID = R.Trans_ID AND S.S_ID =R.S_ID;
```

The results section displays the following data:

CUSTOMER ID	CUSTOMER	RECEVIER	SELLER ID	TRANS_ID	AMOUNT
101	Rahim	Mr. X	11	2621011	570
102	Karim	Mr. Y	22	9657455	1010
104	Kudu	Mr. Z	33	7564347	340
105	Mohdu	Mr. K	44	6947310	610
103	Judu	Ms. X	55	7428901	5600

At the bottom, it says "5 rows returned in 0.00 seconds".

## Outer join 1

**Q.** Display all information between customer and payment method

**Ans:** select c.c\_id,c.c\_name,p.trans\_id,p.amount  
from customer c, payment\_method p  
where c.c\_id(+) = p.trans\_id;

The screenshot shows a browser window with multiple tabs open. The active tab is titled "SQL Commands". The URL in the address bar is "127.0.0.1:8080/apex/f?p=4500:1003:2241271529133695::NO::". The page header indicates "User: SYS". Below the header, the breadcrumb navigation shows "Home > SQL > SQL Commands". The main content area contains the following SQL code:

```
select c.c_id,c.c_name,p.trans_id,p.amount
from customer c, payment_method p
where c.c_id(+) = p.trans_id;
```

Below the code, there are two buttons: "Save" and "Run". A small icon of a hand holding a key is visible near the bottom right of the code area. To the right of the "Run" button is a red circle containing the number "1".

At the bottom of the page, there is a navigation bar with links: "Results", "Explain", "Describe", "Saved SQL", and "History". The "Results" link is underlined, indicating it is the active tab. The results section displays a table with the following data:

C_ID	C_NAME	TRANS_ID	AMOUNT
-	-	6947310	610
-	-	2621011	570
-	-	7428901	5600
-	-	9657455	1010
-	-	7564347	340

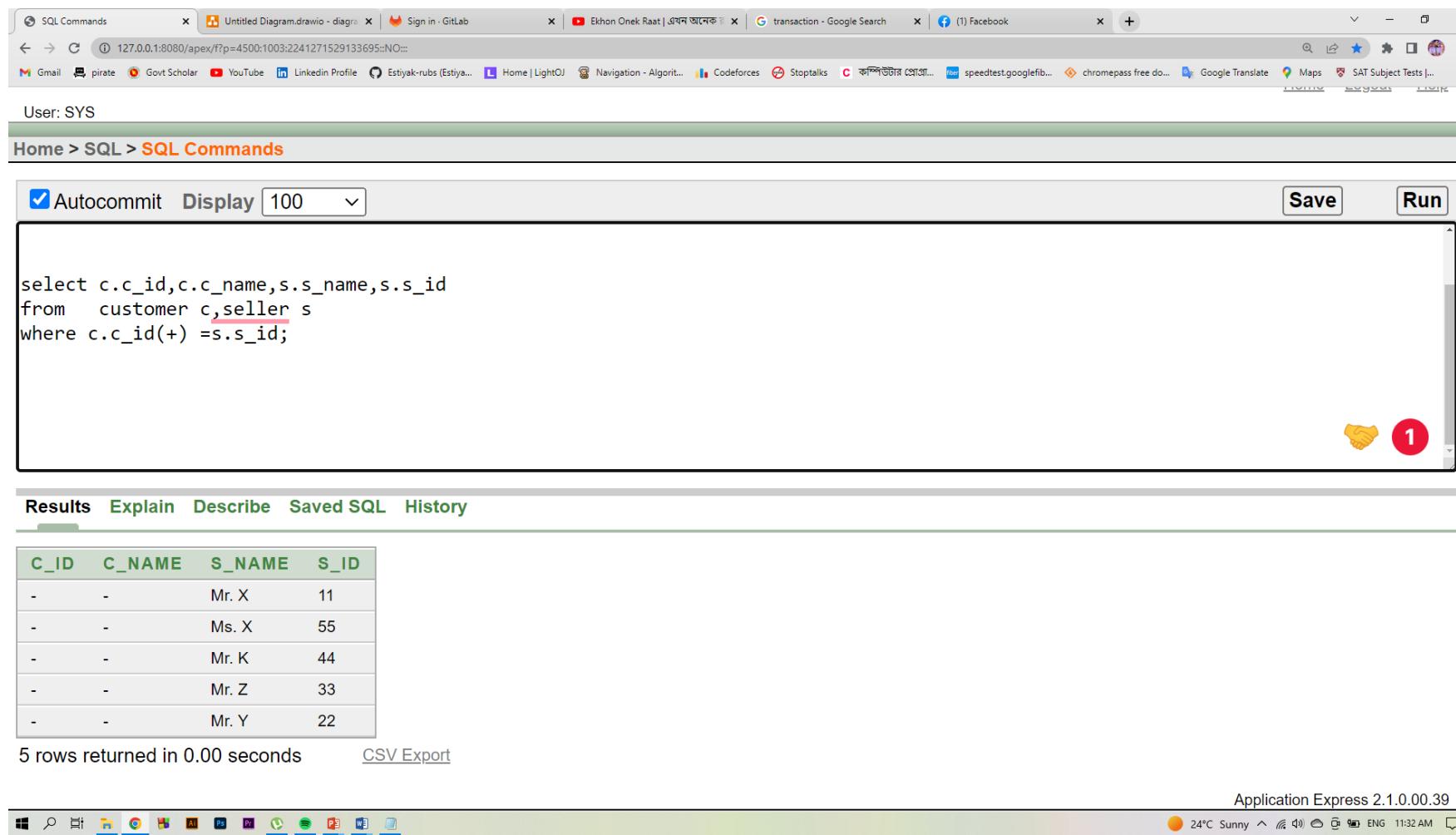
Below the table, the text "5 rows returned in 0.00 seconds" is displayed, along with a "CSV Export" link.

The bottom status bar of the browser shows the application version "Application Express 2.1.0.00.39" and the system status "24°C Sunny ^ ⚡ ENG 11:40 AM".

## outerjoin 2

Q. Display all information between Customer and Seller

Ans:  
select c.c\_id,c.c\_name,s.s\_name,s.s\_id  
from customer c,seller s  
where c.c\_id(+) =s.s\_id;



The screenshot shows the Oracle SQL Developer interface. The SQL command window contains the following query:

```
select c.c_id,c.c_name,s.s_name,s.s_id
from customer c,seller s
where c.c_id(+) =s.s_id;
```

The results window displays the following data:

C_ID	C_NAME	S_NAME	S_ID
-	-	Mr. X	11
-	-	Ms. X	55
-	-	Mr. K	44
-	-	Mr. Z	33
-	-	Mr. Y	22

Below the table, it says "5 rows returned in 0.00 seconds".

## Q. Display Self-Join of Payment Method Table

**Ans:** select A.Trans\_ID,A.CARD\_NUMBER,A.VAILD ,A.amount,B.Trans\_ID,B.BKASH  
from payment\_method A,payment\_method B  
where A.Trans\_ID = B.Trans\_ID ;

The screenshot shows the Oracle Application Express interface for executing SQL commands. The query entered is:

```
select A.Trans_ID,A.CARD_NUMBER,A.VAILD ,A.amount,B.Trans_ID,B.BKASH
from payment_method A,payment_method B
where A.Trans_ID = B.Trans_ID ;
```

The results section displays the following data:

TRANS_ID	CARD_NUMBER	VAILD	AMOUNT	TRANS_ID	BKASH
2621011	-	-	570	2621011	161321011
9657455	19705687412458	12-APR-26	1010	9657455	-
7428901	20226784146789	05-FEB-56	5600	7428901	-
7564347	-	-	340	7564347	1752094290
6947310	-	-	610	6947310	1915212290

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

Application Express 2.1.0.0.39

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## Non-EquiJoin

### Q. Display Self-Join of Payment Method Table

**Ans:** select A.Trans\_ID,A.CARD\_NUMBER,A.VAILD ,A.amount,B.Trans\_ID,B.BKASH  
from payment\_method A,Receive\_method B  
where A.Amount>B.Amount;

The screenshot shows a browser window with multiple tabs open. The active tab is titled "SQL Commands" and contains the following SQL code:

```
select A.Trans_ID, A.CARD_NUMBER, A.VAILD , A.amount, B.Trans_ID, B.BKASH
from payment_method A,Receive_method B
where A.Amount>B.Amount;
```

Below the code, there are tabs for "Results", "Explain", "Describe", "Saved SQL", and "History". The "Results" tab is selected, displaying a table with the following data:

TRANS_ID	CARD_NUMBER	VAILD	AMOUNT	TRANS_ID	BKASH
2621011	-	-	570	7564347	1778573511
9657455	19705687412458	12-APR-26	1010	2621011	-
9657455	19705687412458	12-APR-26	1010	7564347	1778573511
9657455	19705687412458	12-APR-26	1010	6947310	1587947638
7428901	20226784146789	05-FEB-56	5600	2621011	-
7428901	20226784146789	05-FEB-56	5600	9657455	-
7428901	20226784146789	05-FEB-56	5600	7564347	1778573511
7428901	20226784146789	05-FEB-56	5600	6947310	1587947638
6947310	-	-	610	2621011	-
6947310	-	-	610	7564347	1778573511

At the bottom left, it says "10 rows returned in 0.00 seconds". At the bottom right, there is a "CSV Export" link.

The status bar at the bottom of the browser window shows "Application Express 2.1.0.00.39", "Copyright © 1999-2006, Oracle. All rights reserved.", "24°C Haze", and the system clock "12:05 PM".

## SUBQUERY NO 1

**Qus:** Display all who pays maximum amount of money

**Ans:** select \* from payment\_method

The screenshot shows the Oracle Application Express SQL Commands interface. The top navigation bar includes links for SQL Commands, Untitled Diagram.drawio, Sign in - GitLab, The Local Train - Aalias Ka Pedh, transaction - Google Search, and various browser tabs and bookmarks.

The main area displays the following SQL code:

```
select * from payment_method
where amount = (select MAX(amount) from payment_method);
```

Below the code, there are "Save" and "Run" buttons. The "Run" button has a green circular icon with a white arrow pointing right next to it.

At the bottom, there are tabs for Results, Explain, Describe, Saved SQL, and History. The Results tab is selected, showing the following table output:

TRANS_ID	CARD_NUMBER	VAILD	BKASH	AMOUNT	C_ID
7428901	20226784146789	05-FEB-56	-	5600	103

The message "1 rows returned in 0.02 seconds" is displayed below the table, along with a "CSV Export" link.

The footer contains the text "Application Express 2.1.0.00.39", "Copyright © 1999, 2006, Oracle. All rights reserved.", and "Language: en-us". The bottom status bar shows system icons and the date/time: 21°C Haze, ENG, 9:05 AM.

## SubQuery NO. 2

**QUS:** Display all information who receive 2<sup>nd</sup> Minimum amount of money

**Ans:** select\* from receive\_method

where amount =(select MIN(amount) from receive\_method)

where Amount > (select MIN(AMOUNT) from receive\_method));

The screenshot shows the Oracle Application Express SQL Commands interface. The query entered is:

```
select* from receive_method
where amount =(select MIN(amount) from receive_method)
where Amount > (select MIN(AMOUNT) from receive_method));

describe receive_method
```

The results section displays a single row of data:

TRANS_ID	CARD_NUMBER	VALID	BKASH	AMOUNT	S_ID
2621011	19705687416300	12-DEC-26	-	570	11

Below the table, it says "1 rows returned in 0.00 seconds".

At the bottom, the footer includes:

Application Express 2.1.0.00.39  
Language: en-us Copyright © 1999, 2006, Oracle. All rights reserved.

## SubQuery NO. 3

**QUS:** Display all information who receive maximum amount of money

**Ans:** select\* from receive\_method

where amount =(select MAX(Amount) from receive\_method);

The screenshot shows the Oracle Database Express Edition interface. The user is logged in as 'SYS'. The SQL command entered is:

```
select *  
from receive_method  
where Amount =(select MAX(amount)  
               from receive_method);
```

The results section displays a single row of data:

TRANS_ID	CARD_NUMBER	VAILD	BKASH	AMOUNT	S_ID
7428901	20226784146789	05-MAY-56	-	5600	55

Below the table, it says "1 rows returned in 0.00 seconds".

At the bottom, there is a status bar with system icons and the text "Copyright © 1996-2006 Oracle. All rights reserved. Application Express 2.1.0.0.39".

## SubQuery NO. 4

**QUS:** Display all information who pays 2<sup>nd</sup> maximum amount of money

**Ans:** select\* from receive\_method

where amount =(select MIN(amount) from receive\_method)

where Amount > (select MIN(AMOUNT) from receive\_method));

The screenshot shows the Oracle Database Express Edition interface. The user is logged in as 'SYS'. The current page is 'SQL Commands' under 'Home > SQL'. The SQL editor contains the following code:

```
select *
from payment_method
where amount=(select MAX(amount) |
              from payment_method
              where Amount>(select MAX(Amount)
                            from payment_method));
```

Below the code, there is a 'describe payment\_method' command. The interface includes standard buttons for 'Autocommit' (checked), 'Display' (set to 100), 'Save', and 'Run'. The status bar at the bottom indicates 'no data found'.

At the bottom of the window, there are tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The 'Results' tab is currently selected. The application footer shows 'Application Express 2.1.0.00.39' and other system details like temperature and battery level.

## SIMPLE VIEW

**Q.** Create a view of Transaction ID , Amount and show the table where Amount is not null

**A.** create view payment\_vu1 ("transaction","Payment\_Amount") as select Trans\_id, amount from payment\_method  
where amount is not null;  
select \* from payment\_vu1

The screenshot shows a web-based SQL editor interface. At the top, there are several tabs: "SQL Commands", "Untitled Diagram.drawio - diagram", "Sign in - GitLab", "The Local Train - Aalas Ka Pedi...", and "transaction - Google Search". Below the tabs, the URL is 127.0.0.1:8080/apex/f?p=4500:1003:2241271529133695::NO:::. The browser's address bar also displays this URL. The page title is "Home > SQL > SQL Commands".  
  
In the main editor area, the following SQL code is written:

```
create view payment_vu1 ("transaction","Payment_Amount") as select Trans_id, amount from payment_method
where amount is not null;

select * from payment_vu1
```

At the top of the editor, there are checkboxes for "Autocommit" (checked) and "Display" (set to 100), and buttons for "Save" and "Run". To the right of the editor, there is a yellow handshake emoji and a red circular badge with the number 1.  
  
Below the editor, there is a navigation bar with links: "Results" (highlighted in green), "Explain", "Describe", "Saved SQL", and "History".  
  
The "Results" section displays a table with two columns: "Transaction" and "Payment\_Amount". The data is as follows:

Transaction	Payment_Amount
2621011	570
9657455	1010
7428901	5600
7564347	340
6947310	610

Below the table, it says "5 rows returned in 0.00 seconds" and there is a "CSV Export" link. The bottom of the screen shows the Windows taskbar with various icons and the system tray.

## Complex view

Q. Create a Complex view of Customer Name , ID , Amount of payment , Transaction ID

Ans: create View Paid (Name, Customer\_ID,Taka, transaction\_ID) AS Select C.C\_name,c.C\_ID,P.Amount,P.Trans\_ID from Customer C , Payment\_method P where C.C\_ID = P.C\_ID;

SQL Commands   Untitled Diagram.drawio - diagram | Sign in · GitLab | Ekhon Onek Raat | এখন আনেক র | transaction - Google Search | Downloads

Autocommit Display 100 Save Run

```
create View Paid (Name, Customer_ID,Taka, transaction_ID) AS Select C.C_name,c.C_ID,P.Amount,P.Trans_ID from Customer C , Payment_method P where C.C_ID = P.C_ID;

select* from Paid;
```

3

Results Explain Describe Saved SQL History

NAME	CUSTOMER_ID	TAKA	TRANSACTION_ID
Rahim	101	570	2621011
Karim	102	1010	9657455
Judu	103	5600	7428901
Kudu	104	340	7564347
Mohdu	105	610	6947310

5 rows returned in 0.02 seconds

[CSV Export](#)

Application Express 2.1.0.00.39

## Constraint

### Payment\_method

Alter table payment\_method modify amount not null;

The screenshot shows a web-based SQL command interface. At the top, there's a browser-like header with tabs for "SQL Commands", "Untitled Diagram.drawio - diagram", "Sign in - GitLab", and "The Local Train - Aalas Ka Pedh". Below the header, the URL is 127.0.0.1:8080/apex/f?p=4500:1003:2241271529133695::NO:::. The page title is "Home > SQL > SQL Commands". The user is logged in as "User: SYS". The main area contains the following SQL code:

```
Alter table payment_method modify amount not null;

describe payment_method
```

Below the code, there are "Save" and "Run" buttons. The "Run" button has a green "G" icon next to it. At the bottom, there are navigation links: "Results", "Explain", "Describe", "Saved SQL", and "History". The "Describe" link is currently selected. The results section shows the table structure for "PAYMENT\_METHOD":

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
PAYMENT_METHOD	TRANS_ID	Number	-	7	0	1	-	-	-
	CARD_NUMBER	Number	-	14	0	-	✓	-	-
	VALID	Date	7	-	-	-	✓	-	-
	BKASH	Number	-	11	0	-	✓	-	-
	AMOUNT	Number	-	5	0	-	-	(0)	-
	C_ID	Number	-	3	0	-	✓	-	-

At the bottom right of the table, it says "1 - 6". The footer of the browser window shows various icons and system status information.