



## **AMERICAN INTERNATIONAL UNIVERSITY–BANGLADESH (AIUB)**

### **FACULTY OF SCIENCE & TECHNOLOGY**

#### **DEPARTMENT OF CSE**

#### **INTRODUCTION TO DATABASE**

**FALL 2022-2023**

**Section: R, Group: 6**

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**PROJECT ON**

**Banking Management System.**

**Supervised By**

Syed Nafiul Shefat

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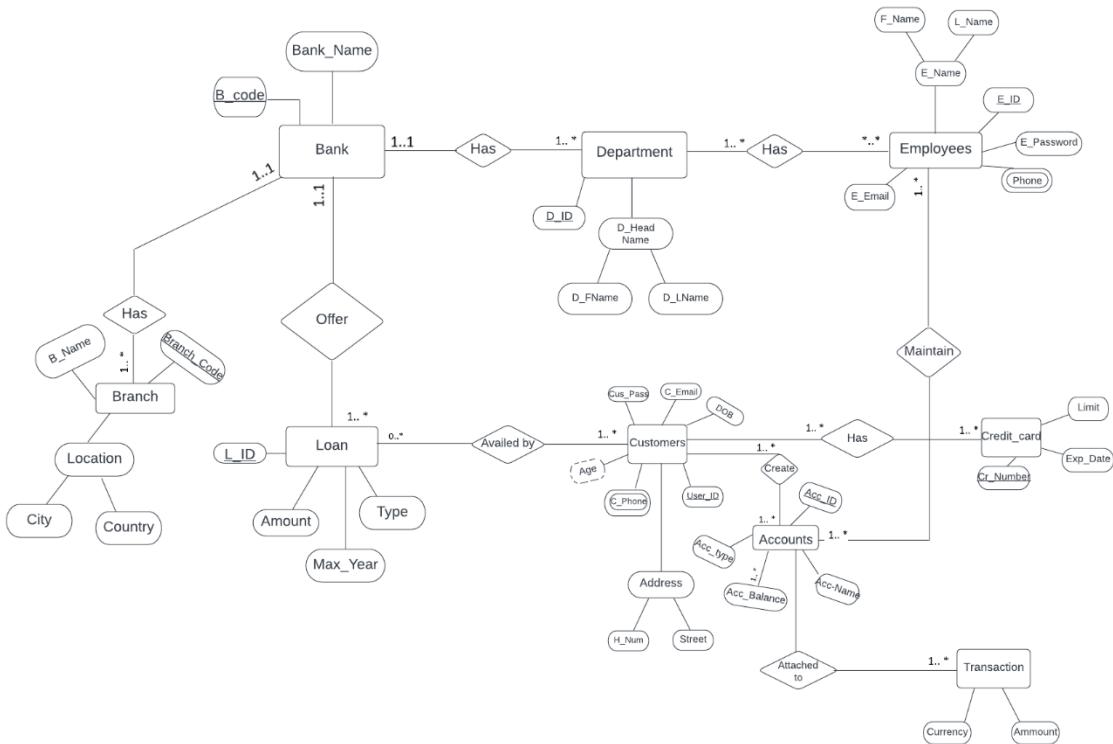
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**Scenario:**

In a bank management system, bank has a unique code and it has also a name. A bank can offer loan. Loan contain attribute Loan\_id,amount,Loan\_type and maximum period of time. Loan is availed by customers. A Bank has many branches. All branches has branch\_name,location(city,country) and a unique code. Bank has different kinds of department . In each department there are Department\_Id, Department head . Each department has employee. Each employee has employee\_name, distinct employee\_id , employee\_pass and also E-mail. Each employee has phone number which is multivalued. Employees maintain all the accounts of customers . Each customer has address ,phone number,DOB, Age, Password and distinct Id. A customer can create one or more accounts. Account has Account Id, Account type, Account Name. Account is also attached to transaction. Transaction contain currency and amount. Customer has credit card and Credit card has Expiry date ,limit and a unique credit\_number.

## ER DIAGRAM:



## **Normalization:**

### **→Bank has Branch**

UNF: Has(Bank\_code, Bank\_Name, Branch\_Name, Brach\_code , Branch\_City, Branch\_Country)

1NF : There is No Multivalued Attribute

Has(Bank\_code, Bank\_Name, Branch\_Name, Brach\_code , Branch\_City, Branch\_Country)

2NF :

1. Bank\_code, Branch\_Name.
2. Branch\_Code , Branch\_Name , Branch\_City, Branch\_Country, Bank\_Code fk.

3NF:

1. Bank\_Code, Bank\_Name .
2. Branch\_Code, Branch\_Name, Bank\_Code .
3. Branch\_City, Branch\_Country, Branch\_Code .

### **→Bank Offer Loan**

UNF : Offer(Bank\_Code, Bank\_Name, B\_City, Loan\_ID ,Loan\_amount , Loan\_type , Max\_Year)

1NF :

No Multivalude Attribute.

Offer(Bank\_Code, Bank\_Name, Loan\_ID ,Loan\_amount , Loan\_type , Max\_Year)

2NF:

1. Bank\_Code , Bank\_Name.
2. Loan\_ID , Loan\_Amount , Loan\_Type , Max\_Year, Bank\_Code

3NF:

1. Bank\_Code, Bank\_Name.
2. Loan\_ID, Loan\_amount, Loan\_Type, Max\_Year , Bank\_Code.

### **→Loan Availed by Customers**

UNF:

Availed by (Loan\_ID , Loan\_Amount , Loan\_Type , Max\_Year, Customer\_ID , Customer\_Name , Customer\_E-mail , Customer\_House, C\_Street , Customer\_Country , Customer\_DoB, Customer\_Age , Customer\_phone )

1NF : “Customer\_Phone” is multivalued Attribute .

Availed by (Loan\_ID , Loan\_Amount , Loan\_Type , Max\_Year, Customer\_ID , Customer\_Name , Customer\_E-mail , Customer\_House, Customer\_Street , Customer\_Country , Customer\_DoB, Customer\_age , Customer\_phone )

2NF:

1. Loan\_ID, Loan\_Amount, Loan\_Type, Max\_Year, C.ID,
2. Customer\_ID, Customer\_Name, Customer\_Email, Customer\_House, Customer\_Street, Customer\_Country, Customer\_DoB, Customer\_age .
3. Customer\_Phone, Customer\_ID

3NF:

1. Loan\_ID, Loan\_Amount, Loan\_Type, Max\_Year, Customer\_ID
2. Customer\_ID, Customer\_Name, Customer\_Email, Customer\_DoB, Customer\_age
3. Customer\_ID, Customer\_House, Customer\_Street, Customer\_Country
4. Customer\_Phone, Customer\_ID

#### →Customer Create Accounts

UNF :

```
Create ( Customer_ID , Customer_FName, Customer_LName , Customer_Email,  
Customer_House , Customer_Street, Customer_Country ,Customer_DoB , Customer_age ,  
Customer_phone , Account_Balance )
```

1NF: “Customer\_Phone” is Multivalude Attribute

2NF:

1. Customer\_ID, Customer\_FName, Customer\_LName , Customer\_Email, Customer\_House, Customer\_Street , Customer\_Country , Customer\_DoB, Customer\_age.
2. Customer\_phone , Customer\_ID
3. Account\_ID, Account\_Name, Account\_Type, Account\_Balance, Customer\_ID

3NF:

1. Customer\_ID, Customer\_Email , Customer\_DoB, Customer\_age
2. Customer\_ID , Customer\_House , Customer\_Street, Customer\_Country
3. Customer\_Phone , Customer\_ID
4. Account\_ID , Account\_Name , Account\_Type , Account\_balance , Customer\_ID
5. Customer\_FName , Customer\_LName ,Customer\_ID

#### →Employee maintain Account

UNF :

```
Maintain( Account_ID , Account_Balance , Account_Name , Account_type ,Employee_FName ,  
Employee_LName , Employee_ID, Employee_Email, Employee_Phone )
```

1NF : “Phone” is Multivalued attribute

```
Maintain( Account_ID , Account_Balance , Account_Name , Account_type , Employee_FName ,  
Employee_LName , Employee_ID, Employee_Email)
```

2 NF:

1. Account\_ID, Account\_Balance , Account\_name , Account\_type, Employee\_ID
2. Employee\_ID, Employee\_FName, Employee\_LName , Employee\_Email
3. Employee\_Phone , Employee\_ID.

3 NF :

1. Account\_ID, Account\_Balance , Account\_Name , Account\_type , Employee\_ID
2. Employee\_ID, Employee\_email
3. Employee\_Phone, Employee\_ID

→Customer has Credit\_card

UNF :

Has(Customer\_Password, Customer\_Email, Customer\_Phone, Customer\_ID, House\_Number , Street , Limit, Credit\_Number, Exp\_Date)

1 NF:

“Customer\_Phone” is a multivalued attribute

Has(Customer\_Password, Customer\_Email , Customer\_ID, House\_Number, Street , Limit , Credit\_Number, Exp\_Date)

2NF:

1. Customer\_ID , Cutomer\_Password , Customer\_Email, House\_Number, Street.
2. Customer\_Phone , Customer\_ID
3. Credit\_Number , Limit, Exp\_Date, Customer\_ID

3NF:

1. Customer\_ID , Customer\_Password, Customer\_Email.
2. Customer\_Phone, Customer\_ID.
3. Customer\_ID, House\_Number, Street.
4. Credit\_Number , Limit , Exp\_Date, Customer\_ID

→Department has Employee

UNF :

has( Department\_ID, Department\_FName, Department\_LName , Employee\_FName, Employee\_LName, Employee\_ID, Employee\_Pass, Employee\_Phone)

1NF:

“Employee\_Phone” is Multivalued Attribute

has( Department\_ID, Department\_FName, Department\_LName , Employee\_FName, Employee\_LName, Employee\_ID, Employee\_Password )

2NF:

1. Department\_ID, Department\_FName ,Department\_LName.
2. Employee\_Phone , Employee\_ID.
3. Employee\_ID,Employee\_FName, Employee\_LName,Employee\_Password.

3NF:

1. Department\_ID, Department\_FName ,Department\_LName.
2. Employee\_Phone ,Employee\_ID.
3. Employee\_FName, Employee\_LName , Employee\_ID.

**→Accounts attached to transaction :**

UNF: Attached to ( Account\_ID , Account\_Name , Account\_type , Account\_Balance , Currency , Amount )

1NF :

There is no Multivalued attribute

Attached to ( Account\_ID , Account\_Name , Account\_type , Account\_Balance , Currency ,Amount)

2NF:

1. Account\_ID , Account\_Name , Account\_type , Account\_Balance
2. Currency , Amount , Account\_ID

3NF:

1. Account\_ID , Account\_Name , Account\_type , Account\_Balance
2. Currency , Amount , Account\_ID

**→Bank has Department :**

UNF: has (Bank\_Code, Bank\_Name , Department\_ID, Department\_FName , Department\_LName)

1NF: There is no multivalued attribute

has (Bank\_Code, Bank\_Name , Department\_ID, Department\_FName , Department\_LName)

2 NF:

1. Bank\_Code, Bank\_Name,
2. Department\_ID, Department\_FNAmE, Department\_LName ,Bank\_Code

3 NF:

1. Bank\_Code, Bank\_Name,
2. Department\_ID, Department\_FNAmE, Department\_LName ,Bank\_Code

## **Table Creation :**

1. Bank Code , Bank Name
2. Branch Code, Branch Name , Bank\_Code
3. Bank\_City, Bank\_Country , Bank\_Code
4. Branch\_Code, Branch\_Country, Branch\_Code
5. Bank\_Code , Bank name
6. Loan ID ,Loan\_Amount, Loan\_Type , Max\_Year ,Bank\_Code
7. Bank\_City, Bank\_Country, Bank\_Code
8. Loan ID ,Loan\_Amount, Loan\_Type , Max\_Year ,Customer\_ID
9. Customer\_ID, Customer\_Name, Customer\_email, Customer\_ID, Customer\_DOB, Customer\_Age
10. Customer\_ID , Customer\_House, Customer\_Street, Customer\_Country
11. Customer\_phone , Customer\_ID
12. Customer\_ID , Customer\_email, Customer\_DOB, Customer\_age
13. Customer\_ID , Customer\_House, Customer\_Street, Customer\_Country
14. Customer\_phone , Customer\_ID
15. Account\_ID ,Account\_Name , Account\_type ,Account\_Balance , Customer\_ID
16. Customer\_FName, Customer\_LName , Customer\_ID
17. Account\_ID, Account\_Balance, Account\_Name, Account\_Type, Employee\_ID
18. Employee\_ID , Employee\_email, Employee\_Password
19. Employee\_Phone, Employee\_ID
20. Employee\_ID, Employee\_FName, Employee\_LName
21. Account\_ID ,Account\_Name , Account\_type ,Account\_Balance , Customer\_ID
22. Account\_ID , Currency , Amount
23. Bank\_ID, Bank\_Name
24. Department\_ID , Department\_FName , Department\_LName , Bank Code
25. Department\_ID , Department\_FName , Department\_LName ,D\_phone
26. Employee\_ID , Employee\_password
27. Employee\_ID , Employee\_FName ,Employee\_LName
28. Customer\_ID , Customer\_Pass, Customer\_email
29. Customer\_Phone , Customer\_ID
30. Customer\_ID, House\_Number,Street
31. Credit\_Number,Limit,Exp\_Date,Customer\_ID

## **Final Table Creation :**

1. Bank Code , Bank Name
2. Branch Code, Branch Name , Bank\_Code
3. Bank\_City, Bank\_Country , Bank\_Code
4. Branch\_Code, Branch\_Country, Branch\_Code
5. Loan ID ,Loan\_Amount, Loan\_Type , Max\_Year ,Bank\_Code
6. Loan\_ID ,Loan\_Amount, Loan\_Type, Max\_year, Customer\_ID

7. Customer\_ID, Customer\_Name, Customer\_email, Customer\_ID, Customer\_DOB, Customer\_Age
8. Customer\_ID, Customer\_House, Customer\_Street, Customer\_Country
9. Customer\_phone, Customer\_ID
10. Account\_ID, Account\_Name, Account\_type, Account\_Balance, Customer\_ID
11. Customer\_FName, Customer\_LName, Customer\_ID
12. Employee\_ID, Employee\_email, Employee\_Pass
13. Employee\_Phone, Employee\_ID
14. Employee\_ID, Employee\_FName, Employee\_LName
15. Account\_ID, Account\_Name, Account\_Type, Account\_Balance, Employee\_ID
16. Account\_ID, Currency, Amount
17. Department\_ID, Department\_FName, Department\_LName, Bank\_Code
18. Department\_phone, Department\_ID
19. Credit\_Number, Limit, Exp\_Date, Customer\_ID

#### **FINAL TABLE :**

##### **1.BANK TABLE**

BANK_CODE	BANK_NAME
101A	BACHELOR BANK

##### **2.BRANCH TABLE**

BRANCH_CODE	BRANCH_NAME	BANK_CODE
112233	BASHUNDHARA	101A
112244	MIRPUR	101A
112255	GULSHAN	101A
112266	BANANI	101A
112277	DHANMONDI	101A

##### **3.BRANCH\_ADDRESS TABLE**

BRANCH_CODE	BRANCH_CITY	BRANCH_COUNTRY
112277	DHAKA	BANGLADESH
112255	DHAKA	BANGLADESH
112266	DHAKA	BANGLADESH
112244	DHAKA	BANGLADESH
112233	DHAKA	BANGLADESH

##### **4.POON TABLE**

LOAN_ID	LOAN_AMOUNT	LOAN_TYPE	MAX_YEAR	BANK_CODE
101	200000	ACADEMIC	4	101A
102	300000	HOME LOAN	5	101A
103	400000	CAR LOAN	3	101A
105	500000	BUSINESS LOAN	4	101A
106	250000	PERSONAL LOAN	4	101A

##### **5.CUSTOMER\_DETAILS TABLE**

CUSTOMER_ID	CUSTOMER_NAME	CUSTOMER_EMAIL
201	DIPON	diponbaba@gmail.com
202	REZA	babareza@gmail.com
203	RIYAD	babariyad@gmail.com
204	AIRIN	maairin@gmail.com
205	MOYNA	mamoyna@gmail.com

##### **6. CUSTOMER\_DETAILS\_1 TABLE**

CUSTOMER_ID	CUSTOMER_BOD	CUSTOMER_AGE
205	11-JAN-01	21
203	12-JUL-99	23
204	11-JAN-00	24
201	15-JUL-98	24
202	15-APR-00	22

## 7. CUSTOMER\_ADDRESS TABLE

CUSTOMER_COUNTRY	CUSTOMER_HOUSENO	CUSTOMER_STREETNO	CUSTOMER_ID
BANGLADESH	120/12	5NO	201
BANGLADESH	111/2	7NO	202
BANGLADESH	114/4	1NO	203
BANGLADESH	122/2	3NO	204
BANGLADESH	121/7	6NO	205

## 8. CUSTOMER\_PHONE TABLE

CUSTOMER_PHONE	CUSTOMER_ID
01765432198	201
017634532198	202
01865432198	203
01665432198	204
01364272198	205

## 9. CUSTOMER\_NAME TABLE

Customer Fname	Customer Lname	Customer Id
Murshed	Khan	201
Mamun	Khan	202
Masud	Pathan	203
Simu	Jahan	204
Aria	Enam	205

## 10. LOAN\_2 TABLE

LOAN_ID	LOAN_AMOUNT	LOAN_TYPE	MAX_YEAR	CUSTOMER_ID
101	200000	ACADEMIC	4	201
102	300000	HOME LOAN	5	202
103	400000	CAR LOAN	3	203
105	500000	BUSINESS LOAN	4	204
106	250000	PERSONAL LOAN	4	205

## 11. ACCOUNT\_DETAILS TABLE

ACCOUNT_ID	ACCOUNT_NAME	ACCOUNT_TYPE	ACCOUNT_BALANCE	CUSTOMER_ID
1010	DIPON	PERSONAL	3000000	201
1011	MOSHIUR	PERSONAL	4000000	202
1012	MUNNA	NOMINAL	12400	203
1013	MINHAZ	PERSONAL	100000	204
1014	TAREK	NOMINAL	35000	205

## 12. EMPLOYEE TABLE

EMPLOYEE_ID	EMPLOYEE_EMAIL	EMPLOYEE_PASSWORD
111	bappy18@gmail.com	@125
112	dionkor90@gmail.com	@1431
113	abdullah@gmail.com	@52845
114	ishan13@gmail.com	@ishan12
115	tamim52@gmail.com	tiger2
116	aniksarkar@gmail.com	#2345

## 13. EMPLOYEE\_PHONE TABLE

EMPLOYEE_PHONE	EMPLOYEE_ID
1700963200	111
1960963270	112
1640993200	113
1420363200	114
1662963570	115
1340993200	116

## 14. EMPLOYEE\_NAME TABLE

EMPLOYEE_FNAME	EMPLOYEE_LNAME	EMPLOYEE_ID
DIPON	SAHA	111
DIPONKOR	BISWAS	112
ABDULLAH	ATIK	113
ISHAN	KISHAN	114
TAMIM	ISLAM	115
ANIK	SARKAR	116

### 15.ACCOUNT\_DETAILS\_1 TABLE

ACCOUNT_ID	ACCOUNT_NAME	ACCOUNT_TYPE	ACCOUNT_BALANCE	EMPLOYEE_ID
1010	DIPON	PERSONAL	3000000	111
1011	MOSHIUR	PERSONAL	400000	112
1012	MUNNA	NOMINAL	12400	113
1013	MINHAZ	PERSONAL	100000	114
1014	TAREK	NOMINAL	35000	115
1015	TANIA	PERSONAL	570000	116

### 16. TRANSACTION TABLE

CURRENCY	AMMOUNT	ACCOUNT_ID
TAKA	500000	1010
DOLLAR	550000	1011
RUPEE	200000	1012
RIYAL	600000	1013
EURO	540000	1014

### 17. DEPARTMENT TABLE

DEPARTMENT_ID	DEPARTMENT_FNAME	DEPARTMENT_LNAME	BANK_CODE
121	NAFIUL	SYED	101A
122	SHAHRIAR	REZA	101A
123	MAHADI	RIYAD	101A
124	DIPON	BISWAS	101A
125	JULKAR	NINE	101A

### 18. DEPARTMENT\_PHONE TABLE

DEPARTMENT_PHONE	DEPARTMENT_ID
1823463781	121
1523493781	122
1824463481	123
1623463481	124
1923433781	125

### 19.CREDIT\_CARD TABLE

CREDIT_NUMBER	LIMIT	EXP_DATE	CUSTOMER_ID
1511	5000000	12-AUG-27	201
1512	5200000	15-JUL-26	202
1513	10000000	03-AUG-26	203
1514	4000000	10-SEP-25	204
1515	7000000	12-JAN-23	205

### TABLE CREATION WITH SCREENSHOT:

1.

```
CREATE TABLE BANK(BANK_CODE VARCHAR2(20) PRIMARY KEY,BANK_NAME VARCHAR2(20));
```

SQL Commands WhatsApp

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 10

```
CREATE TABLE BANK(BANK_CODE VARCHAR2(20) PRIMARY KEY,BANK_NAME VARCHAR2(20));
DESC BANK
```

Object Type TABLE Object BANK

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
BANK	BANK_CODE	VARCHAR2	20	-	-	1	-	-	
	BANK_NAME	VARCHAR2	20	-	-	-	✓	-	

1 - 2

Language: en-us Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved.

Type here to search 12:23 PM 23-Dec-22

2.

CREATE TABLE BRANCH (BRANCH\_CODE VARCHAR2(20) PRIMARY KEY, BRANCH\_NAME VARCHAR2(20),  
BANK\_CODE REFERENCES BANK);

SQL Commands WhatsApp Meet - yxb-qdso-kab

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 10

```
CREATE TABLE BRANCH (BRANCH_CODE VARCHAR2(20) PRIMARY KEY,
  BRANCH_NAME VARCHAR2(20),
  BANK_CODE REFERENCES BANK,
);
DESC BRANCH
```

Object Type TABLE Object BRANCH

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
BRANCH	BRANCH_CODE	VARCHAR2	20	-	-	1	-	-	
	BRANCH_NAME	VARCHAR2	20	-	-	-	✓	-	
	BANK_CODE	VARCHAR2	20	-	-	-	✓	-	

1 - 3

Language: en-us Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved.

Type here to search 4:19 PM 23-Dec-22

CREATE TABLE BRANCH\_ADDRESS (BRANCH\_CODE VARCHAR2(20) REFERENCES BRANCH, BRANCH\_CITY  
VARCHAR2(20), BRANCH\_COUNTRY VARCHAR2(20));

```

CREATE TABLE BRANCH_ADDRESS (
    BRANCH_CODE VARCHAR2(20) REFERENCES BRANCH,
    BRANCH_CITY VARCHAR2(20),
    BRANCH_COUNTRY VARCHAR2(20)
);
DESC BRANCH_ADDRESS

```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
BRANCH_ADDRESS	BRANCH_CODE	VARCHAR2	20	-	-	✓	-	-	
	BRANCH_CITY	VARCHAR2	20	-	-	✓	-	-	
	BRANCH_COUNTRY	VARCHAR2	20	-	-	✓	-	-	

Results Explain Describe Saved SQL History

Object Type TABLE Object BRANCH\_ADDRESS

Language: en-us | meet.google.com is sharing your screen. Stop sharing Hide Copyright © 1999, 2006, Oracle. All rights reserved. Application Express 2.1.0.00.39

Windows Taskbar: 108.7 Kbps, 144.1 Kbps, 4:38 PM, 23-Dec-22

4.

**CREATE TABLE LOAN(LOAN\_ID VARCHAR2(20) PRIMARY KEY, LOAN\_AMOUNT VARCHAR2(20),  
LOAN\_TYPE VARCHAR2(20), MAX\_YEAR VARCHAR2(20), BANK\_CODE REFERENCES BANK);**

```

CREATE TABLE LOAN(
    LOAN_ID VARCHAR2(20) PRIMARY KEY,
    LOAN_AMOUNT VARCHAR2(20),
    LOAN_TYPE VARCHAR2(20),
    MAX_YEAR VARCHAR2(20),
    BANK_CODE REFERENCES BANK
);
DESC LOAN

```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
LOAN	LOAN_ID	VARCHAR2	20	-	-	1	-	-	
	LOAN_AMOUNT	VARCHAR2	20	-	-	✓	-	-	
	LOAN_TYPE	VARCHAR2	20	-	-	✓	-	-	
	MAX_YEAR	VARCHAR2	20	-	-	✓	-	-	
	BANK_CODE	VARCHAR2	10	-	-	✓	-	-	

Results Explain Describe Saved SQL History

Object Type TABLE Object LOAN

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Windows Taskbar: 0.0 Kbps, 0.0 Kbps, 5:27 PM, 23-Dec-22

5.

**CREATE TABLE CUSTOMER\_DETAILS(CUSTOMER\_ID NUMBER(10) PRIMARY KEY,**

```
CUSTOMER_EMAIL VARCHAR2(20)  
);
```

The screenshot shows a browser window for Oracle Database Express Edition. The URL is 127.0.0.1:8080/apex/f?p=4500:1003:2602625162988602::NO:::. The page title is "SQL Commands". The SQL command entered is:

```
SELECT *  
FROM CUSTOMER_DETAILS
```

The results section displays a table with the following data:

CUSTOMER_ID	CUSTOMER_EMAIL
201	diponbaba@gmail.com
202	babareza@gmail.com
203	babaryad@gmail.com
204	maairin@gmail.com
205	mamoya@gmail.com

5 rows returned in 0.01 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.0.39  
Copyright © 1999, 2008, Oracle. All rights reserved.

6.

```
CREATE TABLE CUSTOMER_DETAILS_1(CUSTOMER_ID REFERENCES CUSTOMER_DETAILS,  
CUSTOMER_BOD VARCHAR2(20), CUSTOMER_AGE VARCHAR2(20));
```

The screenshot shows the Oracle Database Express Edition interface. In the top navigation bar, there are tabs for 'SQL Commands' and '(1) WhatsApp'. The address bar shows the URL: 127.0.0.1:8080/apex/f?p=4500:1003:4484545755727502::NO:::. Below the address bar, there is a toolbar with various icons for Oracle, Discord, Google, and other applications.

The main content area displays the SQL command to create the CUSTOMER\_DETAILS\_1 table:

```
CREATE TABLE CUSTOMER_DETAILS_1(CUSTOMER_ID REFERENCES CUSTOMER_DETAILS,
                               CUSTOMER_BOD VARCHAR2(20),
                               CUSTOMER_AGE VARCHAR2(20))
);
DESC CUSTOMER_DETAILS_1
```

Below the SQL command, there is a table showing the object type 'TABLE Object CUSTOMER\_DETAILS\_1' with three columns: CUSTOMER\_ID, CUSTOMER\_BOD, and CUSTOMER\_AGE. The table details are as follows:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER_DETAILS_1	CUSTOMER_ID	Number	-	10	0	-	✓	-	-
	CUSTOMER_BOD	VARCHAR2	20	-	-	-	✓	-	-
	CUSTOMER_AGE	VARCHAR2	20	-	-	-	✓	-	-

At the bottom of the page, it says 'Language: en-us' and 'Application Express 2.1.0.0.39 Copyright © 1999, 2009, Oracle. All rights reserved.'

7.

CREATE TABLE CUSTOMER\_ADDRESS(CUSTOMER\_COUNTRY VARCHAR2(20), CUSTOMER\_HOUSENO VARCHAR2(20), CUSTOMER\_STREETNO VARCHAR2(20), CUSTOMER\_ID REFERENCES CUSTOMER\_DETAILS );

The screenshot shows the Oracle Database Express Edition interface. In the top navigation bar, there are tabs for 'SQL Commands' and '(1) WhatsApp'. The address bar shows the URL: 127.0.0.1:8080/apex/f?p=4500:1003:4484545755727502::NO:::. Below the address bar, there is a toolbar with various icons for Oracle, Discord, Google, and other applications.

The main content area displays the SQL command to create the CUSTOMER\_ADDRESS table:

```
CREATE TABLE CUSTOMER_ADDRESS(
                               CUSTOMER_COUNTRY VARCHAR2(20),
                               CUSTOMER_HOUSENO VARCHAR2(20),
                               CUSTOMER_STREETNO VARCHAR2(20),
                               CUSTOMER_ID REFERENCES CUSTOMER_DETAILS
);
DESC CUSTOMER_ADDRESS
```

Below the SQL command, there is a table showing the object type 'TABLE Object CUSTOMER\_ADDRESS' with four columns: CUSTOMER\_COUNTRY, CUSTOMER\_HOUSENO, CUSTOMER\_STREETNO, and CUSTOMER\_ID. The table details are as follows:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER_ADDRESS	CUSTOMER_COUNTRY	VARCHAR2	20	-	-	-	✓	-	-
	CUSTOMER_HOUSENO	VARCHAR2	20	-	-	-	✓	-	-
	CUSTOMER_STREETNO	VARCHAR2	20	-	-	-	✓	-	-
	CUSTOMER_ID	Number	-	10	0	-	✓	-	-

At the bottom of the page, it says 'Language: en-us' and 'Application Express 2.1.0.0.39 Copyright © 1999, 2009, Oracle. All rights reserved.'

8.

CREATE TABLE CUSTOMER\_PHONE(CUSTOMER\_PHONE VARCHAR2(20), CUSTOMER\_ID REFERENCES CUSTOMER\_DETAILS );

The screenshot shows the Oracle Database Express Edition interface. In the top navigation bar, there are tabs for Home, Logout, and Help. Below the navigation bar, the URL is 127.0.0.1:8080/apex/f?p=4500:1003:4484545755727502::NO:::1. The main area displays SQL commands for creating a table:

```
CREATE TABLE CUSTOMER_PHONE(
    CUSTOMER_PHONE VARCHAR2(20),
    CUSTOMER_ID REFERENCES CUSTOMER_DETAILS
);
DESC CUSTOMER_PHONE
```

Below the SQL editor, there is a results grid showing the columns of the CUSTOMER\_PHONE table:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER_PHONE	CUSTOMER_PHONE	Varchar2	20	-	-	✓	-	-	
	CUSTOMER_ID	Number	-	10	0	✓	-	-	

At the bottom of the interface, it says "Language: en-us" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

9.

CREATE TABLE CUSTOMER\_NAME(CUSTOMER\_FNAME VARCHAR2(20), CUSTOMER\_LNAME VARCHAR2(20), CUSTOMER\_ID REFERENCES CUSTOMER\_DETAILS);

The screenshot shows the Oracle Database Express Edition interface. In the top navigation bar, there are tabs for Home, Logout, and Help. Below the navigation bar, the URL is 127.0.0.1:8080/apex/f?p=4500:1003:4484545755727502::NO:::1. The main area displays SQL commands for creating a table:

```
CREATE TABLE CUSTOMER_NAME(
    CUSTOMER_FNAME VARCHAR2(20),
    CUSTOMER_LNAME VARCHAR2(20),
    CUSTOMER_ID REFERENCES CUSTOMER_DETAILS
);
DESC CUSTOMER_NAME
```

Below the SQL editor, there is a results grid showing the columns of the CUSTOMER\_NAME table:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER_NAME	CUSTOMER_FNAME	Varchar2	20	-	-	✓	-	-	
	CUSTOMER_LNAME	Varchar2	20	-	-	✓	-	-	
	CUSTOMER_ID	Number	-	10	0	✓	-	-	

At the bottom of the interface, it says "Language: en-us" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

10.

CREATE TABLE LOAN\_2( LOAN\_ID VARCHAR2(20) , LOAN\_AMOUNT VARCHAR2(20), LOAN\_TYPE VARCHAR2(20), MAX\_YEAR VARCHAR2(20), CUSTOMER\_ID REFERENCES CUSTOMER\_DETAILS );

User: RIYAD123

Home > SQL > SQL Commands

Autocommit

```
CREATE TABLE LOAN_2(
    LOAN_ID VARCHAR2(20),
    LOAN_AMOUNT VARCHAR2(20),
    LOAN_TYPE VARCHAR2(20),
    MAX_YEAR VARCHAR2(20),
    CUSTOMER_ID REFERENCES CUSTOMER_DETAILS
);
```

[DESC LOAN\\_2](#)

Results Explain Describe Saved SQL History

Object Type TABLE Object LOAN\_2

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
LOAN_2	LOAN_ID	VARCHAR2	20	-	-	-	✓	-	-
	LOAN_AMOUNT	VARCHAR2	20	-	-	-	✓	-	-
	LOAN_TYPE	VARCHAR2	20	-	-	-	✓	-	-
	MAX_YEAR	VARCHAR2	20	-	-	-	✓	-	-
	CUSTOMER_ID	NUMBER	-	10	0	-	✓	-	-

1 - 5

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

Type here to search 5:50 PM 23-Dec-22

11.

CREATE TABLE ACCOUNT\_DETAILS (ACCOUNT\_ID NUMBER(10) PRIMARY KEY, ACCOUNT\_NAME VARCHAR2 (20), ACCOUNT\_TYPE VARCHAR2 (20), ACCOUNT\_BALANCE NUMBER(10), CUSTOMER\_ID REFERENCES CUSTOMER\_DETAILS);

User: RIYAD123

Home > SQL > SQL Commands

Autocommit

```
CREATE TABLE ACCOUNT_DETAILS (
    ACCOUNT_ID NUMBER(10) PRIMARY KEY,
    ACCOUNT_NAME VARCHAR2(20),
    ACCOUNT_TYPE VARCHAR2(20),
    ACCOUNT_BALANCE NUMBER(10),
    CUSTOMER_ID REFERENCES CUSTOMER_DETAILS
);
```

[DESC ACCOUNT DETAILS](#)

Results Explain Describe Saved SQL History

Object Type TABLE Object ACCOUNT\_DETAILS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ACCOUNT_DETAILS	ACCOUNT_ID	Number	-	10	0	1	-	-	-
	ACCOUNT_NAME	VARCHAR2	20	-	-	-	✓	-	-
	ACCOUNT_TYPE	VARCHAR2	20	-	-	-	✓	-	-
	ACCOUNT_BALANCE	Number	-	10	0	-	✓	-	-
	CUSTOMER_ID	Number	-	10	0	-	✓	-	-

1 - 5

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

Type here to search 6:00 PM 23-Dec-22

12.

CREATE TABLE EMPLOYEE (EMPLOYEE\_ID NUMBER(6) PRIMARY KEY, EMPLOYEE\_EMAIL VARCHAR2 (20), EMPLOYEE\_PASSWORD VARCHAR2 (20));

User: RIYAD123

Home > SQL > SQL Commands

```
CREATE TABLE EMPLOYEE (
    EMPLOYEE_ID NUMBER(6) PRIMARY KEY,
    EMPLOYEE_EMAIL VARCHAR2 (20),
    EMPLOYEE_PASSWORD VARCHAR2 (20)
);
DESC EMPLOYEE
```

Autocommit Display 10 Save Run

Object Type TABLE Object EMPLOYEE

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	EMPLOYEE_ID	Number	-	6	0	1	-	-	-
	EMPLOYEE_EMAIL	Varchar2	20	-	-	-	✓	-	-
	EMPLOYEE_PASSWORD	Varchar2	20	-	-	-	✓	-	-

1 - 3

Language: en-us Application Express 2.1.0.0.39 Copyright © 1999, 2008, Oracle. All rights reserved.

13.

**CREATE TABLE EMPLOYEE\_PHONE (EMPLOYEE\_PHONE NUMBER(20), EMPLOYEE\_ID REFERENCES EMPLOYEE);**

User: RIYAD123

Home > SQL > SQL Commands

```
CREATE TABLE EMPLOYEE_PHONE (
    EMPLOYEE_PHONE NUMBER(20),
    EMPLOYEE_ID REFERENCES EMPLOYEE
);
DESC EMPLOYEE_PHONE
```

Autocommit Display 10 Save Run

Object Type TABLE Object EMPLOYEE\_PHONE

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE_PHONE	EMPLOYEE_PHONE	Number	-	20	0	-	✓	-	-
	EMPLOYEE_ID	Number	-	6	0	-	✓	-	-

1 - 2

Language: en-us Application Express 2.1.0.0.39 Copyright © 1999, 2008, Oracle. All rights reserved.

14.

CREATE TABLE EMPLOYEE\_NAME(EMPLOYEE\_FNAME VARCHAR2 (10), EMPLOYEE\_LNAME VARCHAR2 (10), EMPLOYEE\_ID REFERENCES EMPLOYEE);

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
CREATE TABLE OI
(
    EMPLOYEE_FNAME VARCHAR2 (10),
    EMPLOYEE_LNAME VARCHAR2 (10),
    EMPLOYEE_ID REFERENCES EMPLOYEE
);
DESC EMPLOYEE_NAME
```

Below the code, the results of the DESCRIBE command are shown:

Object Type	Table Object	EMPLOYEE_NAME							
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE_NAME	EMPLOYEE_FNAME	Varchar2	10	-	-	-	✓	-	-
	EMPLOYEE_LNAME	Varchar2	10	-	-	-	✓	-	-
	EMPLOYEE_ID	Number	-	6	0	-	✓	-	-

At the bottom of the interface, it says "Language: en-us" and "Application Express 2.1.0.00.39 Copyright © 1999, 2008, Oracle. All rights reserved."

15.

CREATE TABLE ACCOUNT\_DETAILS\_1(ACCOUNT\_ID NUMBER (10), ACCOUNT\_NAME VARCHAR2 (20), ACCOUNT\_TYPE VARCHAR2 (20), ACCOUNT\_BALANCE NUMBER (10), EMPLOYEE\_ID REFERENCES EMPLOYEE);

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
CREATE TABLE ACCOUNT_DETAILS_1
(
    ACCOUNT_ID NUMBER (10),
    ACCOUNT_NAME VARCHAR2 (20),
    ACCOUNT_TYPE VARCHAR2 (20),
    ACCOUNT_BALANCE NUMBER (10),
    EMPLOYEE_ID REFERENCES EMPLOYEE
);
DESC ACCOUNT_DETAILS_1
```

Below the code, the results of the DESCRIBE command are shown:

Object Type	Table Object	ACCOUNT_DETAILS_1							
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ACCOUNT DETAILS_1	ACCOUNT_ID	Number	-	10	0	-	✓	-	-
	ACCOUNT_NAME	Varchar2	20	-	-	-	✓	-	-
	ACCOUNT_TYPE	Varchar2	20	-	-	-	✓	-	-
	ACCOUNT_BALANCE	Number	-	10	0	-	✓	-	-
	EMPLOYEE_ID	Number	-	6	0	-	✓	-	-

At the bottom of the interface, it says "Language: en-us" and "Application Express 2.1.0.00.39 Copyright © 1999, 2008, Oracle. All rights reserved."

16.

CREATE TABLE TRANSACTION( CURRENCY VARCHAR2 (15), AMMOUNT NUMBER(10), ACCOUNT\_ID REFERENCES ACCOUNT\_DETAILS);

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
CREATE TABLE TRANSACTION(
    CURRENCY VARCHAR2 (15),
    AMMOUNT NUMBER(10),
    ACCOUNT_ID REFERENCES ACCOUNT_DETAILS
);
DESC TRANSACTION
```

The results section displays the table structure:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
TRANSACTION	CURRENCY	Varchar2	15	-	-	-	✓	-	-
	AMMOUNT	Number	-	10	0	-	✓	-	-
	ACCOUNT_ID	Number	-	10	0	-	✓	-	-

At the bottom, the status bar shows "Language: en-us" and "meet.google.com is sharing your screen." The system tray indicates "42.8 Kbps" and "179.4 Kbps".

17.

CREATE TABLE DEPARTMENT(DEPARTMENT\_ID NUMBER(7) PRIMARY KEY, DEPARTMENT\_FNAME VARCHAR2 (10), DEPARTMENT\_LNAME VARCHAR2 (10), BANK\_CODE REFERENCES BANK);

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
CREATE TABLE DEPARTMENT(
    DEPARTMENT_ID NUMBER(7) PRIMARY KEY,
    DEPARTMENT_FNAME VARCHAR2 (10),
    DEPARTMENT_LNAME VARCHAR2 (10),
    BANK_CODE REFERENCES BANK
);
DESC DEPARTMENT
```

The results section displays the table structure:

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DEPARTMENT	DEPARTMENT_ID	Number	-	7	0	1	-	-	-
	DEPARTMENT_FNAME	Varchar2	10	-	-	-	✓	-	-
	DEPARTMENT_LNAME	Varchar2	10	-	-	-	✓	-	-
	BANK_CODE	Varchar2	10	-	-	-	✓	-	-

At the bottom, the status bar shows "Language: en-us" and "meet.google.com is sharing your screen." The system tray indicates "65.2 Kbps" and "317.6 Kbps".

18.

```
CREATE TABLE DEPARTMENT_PHONE(DEPARTMENT_PHONE NUMBER(11),DEPARTMENT_ID  
REFERENCES DEPARTMENT);
```

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
CREATE TABLE DEPARTMENT_PHONE(  
    DEPARTMENT_PHONE NUMBER(11)  
    DEPARTMENT_ID REFERENCES DEPARTMENT  
)  
DESC DEPARTMENT_PHONE
```

Below the code, the results of the DESCRIBE command are displayed:

Object Type	Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
TABLE	DEPARTMENT_PHONE	DEPARTMENT_PHONE	Number	-	11	0	-	✓	-	-
		DEPARTMENT_ID	Number	-	7	0	-	✓	-	-

At the bottom of the interface, the status bar shows "Language: en-us" and "Copyright © 1999, 2008, Oracle. All rights reserved."

19.

```
CREATE TABLE CREDIT_CARD(CREDIT_NUMBER NUMBER(10) PRIMARY KEY, LIMIT NUMBER(15),  
EXP_DATE NUMBER(10), CUSTOMER_ID REFERENCES CUSTOMER_DETAILS);
```

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
CREATE TABLE CREDIT_CARD(  
    CREDIT_NUMBER NUMBER(10) PRIMARY KEY,  
    LIMIT NUMBER(15),  
    EXP_DATE NUMBER(10),  
    CUSTOMER_ID REFERENCES CUSTOMER_DETAILS  
)  
DESC CREDIT_CARD
```

Below the code, the results of the DESCRIBE command are displayed:

Object Type	Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
TABLE	CREDIT_CARD	CREDIT_NUMBER	Number	-	10	0	1	-	-	-
		LIMIT	Number	-	15	0	-	✓	-	-
		EXP_DATE	Number	-	10	0	-	✓	-	-
		CUSTOMER_ID	Number	-	10	0	-	✓	-	-

At the bottom of the interface, the status bar shows "Language: en-us", "meet.google.com is sharing your screen.", "Stop sharing", "Hide", "112.8 Kbps", "198.5 Kbps", "6:28 PM", "23-Dec-22", and "Copyright © 1999, 2008, Oracle. All rights reserved."

## **INSERTION:**

1.

INSERT INTO BANK VALUES( '101A','BACHELOR BANK');

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
INSERT INTO BANK VALUES('101A','BACHELOR BANK');
SELECT * FROM BANK;
```

After executing the code, the results are displayed in a table:

BANK_ID	BANK_NAME
101A	BACHELOR BANK

1 rows returned in 0.00 seconds

At the bottom right of the interface, there is a status bar showing network speed (0.0 Kbps) and system time (12:11 AM, 24-Dec-22).

2.

INSERT INTO BRANCH VALUES( '112233',BASHUNDHARA,'101A');

INSERT INTO BRANCH VALUES( '112244',MIRPUR,'101A');

INSERT INTO BRANCH VALUES( '112255',GULSHAN,'101A');

INSERT INTO BRANCH VALUES( '112266',BANANI,'101A');

INSERT INTO BRANCH VALUES( '112277','DHANMONDI','101A');

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
INSERT INTO BRANCH VALUES('112233',BASHUNDHARA,'101A');
INSERT INTO BRANCH VALUES('112244',MIRPUR,'101A');
INSERT INTO BRANCH VALUES('112255',GULSHAN,'101A');
INSERT INTO BRANCH VALUES('112266',BANANI,'101A');
INSERT INTO BRANCH VALUES('112277','DHANMONDI','101A');

SELECT * FROM BRANCH;
```

After executing the code, the results are displayed in a table:

BRANCH_CODE	BRANCH_NAME	RANK_CODE
112233	BASHUNDHARA	101A
112244	MIRPUR	101A
112255	GULSHAN	101A
112266	BANANI	101A
112277	DHANMONDI	101A

5 rows returned in 0.00 seconds

At the bottom right of the interface, there is a status bar showing network speed (0.0 Kbps) and system time (12:39 AM, 24-Dec-22).

3.

```
INSERT INTO BRANCH_ADDRESS VALUES( '112244','DHAKA','BANGLADESH');

INSERT INTO BRANCH_ADDRESS VALUES( '112233','DHAKA','BANGLADESH');

INSERT INTO BRANCH_ADDRESS VALUES( '112255','DHAKA','BANGLADESH');

INSERT INTO BRANCH_ADDRESS VALUES( '112266','DHAKA','BANGLADESH');

INSERT INTO BRANCH_ADDRESS VALUES( '112277','DHAKA','BANGLADESH');
```

The screenshot shows the Oracle Database Express Edition interface. The top navigation bar includes links for WhatsApp, Oracle Rename Column Using AL, Oracle, Discord, imriyad, For CSE Students, Multisim, Codeforces, Compiler, LightOJ, and several other icons. The main window has a green header bar with tabs for SQL Commands, WhatsApp, Oracle Rename Column Using AL, and a plus sign. Below the header, the URL is 127.0.0.1:8080/apex/f?p=4500:1003:2455868692345569::NO:::. The title bar says ORACLE Database Express Edition. The user is RIYAD123. The SQL Commands tab is active, showing the five INSERT statements from the previous code block. The Run button is visible at the top right of the command area. Below the commands, the Results tab is selected, displaying a table with five rows of data:

BRANCH_CODE	BRANCH_CITY	BRANCH_COUNTRY
112277	DHAKA	BANGLADESH
112255	DHAKA	BANGLADESH
112266	DHAKA	BANGLADESH
112244	DHAKA	BANGLADESH
112233	DHAKA	BANGLADESH

At the bottom of the results table, it says 5 rows returned in 0.00 seconds and provides a CSV Export link. The status bar at the bottom right shows Application Express 2.1.0.0.39, Copyright © 1999, 2009, Oracle. All rights reserved. The system tray icons include a Windows logo, a search bar, and network connectivity indicators.

4.

```
INSERT INTO LOAN VALUES( '101','200000','ACADEMIC','4','101A');

INSERT INTO LOAN VALUES( '102','300000','HOME LOAN','5','101A');

INSERT INTO LOAN VALUES( '103','400000','CAR LOAN','3','101A');

INSERT INTO LOAN VALUES( '105','500000','BUSINESS LOAN','4','101A');

INSERT INTO LOAN VALUES( '106','250000','PERSONAL LOAN','4','101A');
```

```

'101',200000,'ACADEMIC','4','101A');
INSERT INTO LOAN VALUES(
'102',300000,'HOME LOAN','5','101A');

INSERT INTO LOAN VALUES(
'103',400000,'CAR LOAN','3','101A');

INSERT INTO LOAN VALUES(
'105',500000,'BUSINESS LOAN','4','101A');
INSERT INTO LOAN VALUES(
'106',250000,'PERSONAL LOAN','4','101A');

SELECT *
FROM LOAN

```

LOAN_ID	LOAN_AMOUNT	LOAN_TYPE	MAX_YEAR	BANK_CODE
101	200000	ACADEMIC	4	101A
102	300000	HOME LOAN	5	101A
103	400000	CAR LOAN	3	101A
105	500000	BUSINESS LOAN	4	101A
106	250000	PERSONAL LOAN	4	101A

5 rows returned in 0.06 seconds [CSV Export](#)

5.

```

INSERT INTO CUSTOMER_DETAILS VALUES( '201','DIPON','diponbaba@gmail.com');

INSERT INTO CUSTOMER_DETAILS VALUES( '202','REZA','babareza@gmail.com');

INSERT INTO CUSTOMER_DETAILS VALUES( '203','RIYAD','babariyad@gmail.com');

INSERT INTO CUSTOMER_DETAILS VALUES( '204','AIRIN','maairin@gmail.com');

INSERT INTO CUSTOMER_DETAILS VALUES( '205','MOYNA','mamoyna@gmail.com');

```

```

INSERT INTO CUSTOMER_DETAILS VALUES(
'201','DIPON','diponbaba@gmail.com');

INSERT INTO CUSTOMER_DETAILS VALUES(
'202','REZA','babareza@gmail.com');

INSERT INTO CUSTOMER_DETAILS VALUES(
'203','RIYAD','babariyad@gmail.com');

INSERT INTO CUSTOMER_DETAILS VALUES(
'204','AIRIN','maairin@gmail.com');

INSERT INTO CUSTOMER_DETAILS VALUES(
'205','MOYNA','mamoyna@gmail.com');

SELECT *
FROM CUSTOMER_DETAILS

```

CUSTOMER_ID	CUSTOMER_NAME	CUSTOMER_EMAIL
201	DIPON	diponbaba@gmail.com
202	REZA	babareza@gmail.com
203	RIYAD	babariyad@gmail.com
204	AIRIN	maairin@gmail.com
205	MOYNA	mamoyna@gmail.com

5 rows returned in 0.03 seconds [CSV Export](#)

6.

```
INSERT INTO CUSTOMER_DETAILS_1 VALUES( '201','15-JUL-1998','24');  
INSERT INTO CUSTOMER_DETAILS_1 VALUES( '202','15-APR-2000','22');  
INSERT INTO CUSTOMER_DETAILS_1 VALUES( '203','12-JUL-1999','23');  
INSERT INTO CUSTOMER_DETAILS_1 VALUES( '204','11-JAN-2000','24');  
INSERT INTO CUSTOMER_DETAILS_1 VALUES( '205','11-JAN-2001','21');
```

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The SQL editor contains the following code:

```
INSERT INTO CUSTOMER_DETAILS_1 VALUES(  
'201','15-JUL-1998','24');  
INSERT INTO CUSTOMER_DETAILS_1 VALUES(  
'202','15-APR-2000','22');  
INSERT INTO CUSTOMER_DETAILS_1 VALUES(  
'203','12-JUL-1999','23');  
INSERT INTO CUSTOMER_DETAILS_1 VALUES(  
'204','11-JAN-2000','24');  
INSERT INTO CUSTOMER_DETAILS_1 VALUES(  
'205','11-JAN-2001','21');  
SELECT *  
FROM CUSTOMER_DETAILS_1
```

The results pane displays a table with the following data:

CUSTOMER_ID	CUSTOMER_BOD	CUSTOMER_AGE
205	11-JAN-01	21
203	12-JUL-99	23
204	11-JAN-00	24
201	15-JUL-98	24
202	15-APR-00	22

5 rows returned in 0.01 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.00.39  
Copyright © 1999, 2008, Oracle. All rights reserved.

7.

```
INSERT INTO CUSTOMER_PHONE VALUES( '01765432198','201');  
INSERT INTO CUSTOMER_PHONE VALUES( '017634532198','202');  
INSERT INTO CUSTOMER_PHONE VALUES( '01865432198','203');  
INSERT INTO CUSTOMER_PHONE VALUES( '01665432198','204');  
INSERT INTO CUSTOMER_PHONE VALUES( '01364272198','205');
```

The screenshot shows a Windows taskbar at the top with three open windows: 'SQL Commands', 'WhatsApp', and 'account TYPE - Google Search'. Below the taskbar is the Oracle Database Express Edition interface. The SQL Commands window contains the following SQL code:

```
INSERT INTO CUSTOMER_PHONE VALUES('01765432198','201');
INSERT INTO CUSTOMER_PHONE VALUES('017634532198','202');
INSERT INTO CUSTOMER_PHONE VALUES('01865432198','203');
INSERT INTO CUSTOMER_PHONE VALUES('01665432198','204');
INSERT INTO CUSTOMER_PHONE VALUES('01364272198','205');
SELECT *
FROM CUSTOMER_PHONE
```

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

CUSTOMER_PHONE	CUSTOMER_ID
01765432198	201
017634532198	202
01865432198	203
01665432198	204
01364272198	205

Text below the table indicates "5 rows returned in 0.00 seconds" and a "CSV Export" link. At the bottom right of the interface, it says "Application Express 2.1.0.00.39" and "Copyright © 1999, 2008, Oracle. All rights reserved."

At the very bottom of the screen, the Windows taskbar shows icons for File Explorer, Edge, and other applications, along with network status (0.6 Kbps) and system information (3:08 AM, 24-Dec-22).

8.

```
INSERT INTO CUSTOMER_NAME VALUES( 'Murshed','Khan','201');

INSERT INTO CUSTOMER_NAME VALUES( 'Mamun','Khan','202');

INSERT INTO CUSTOMER_NAME VALUES( 'Masud','Pathan','203');

INSERT INTO CUSTOMER_NAME VALUES( 'Simu','JaHAN','204');

INSERT INTO CUSTOMER_NAME VALUES( 'Aria','Enam','205');
```

The screenshot shows the Oracle Database Express Edition interface. In the top navigation bar, there are links for WhatsApp, Oracle, Discord, imriyad, For CSE Students, Multisim, Codeforces, Compiler, LightOJ, and other common tools. The main window displays an SQL command window with the following content:

```

SQL Commands x WhatsApp x + 
127.0.0.1:8080/apex/f?p=4500:1003:2602625162988602::NO:: 

ORACLE Database Express Edition
User: RIVAD123
Home > SQL > SQL Commands
Autocommit: Display: 10 Save Run
INSERT INTO CUSTOMER_NAME VALUES('Mashed','Khan','201');
INSERT INTO CUSTOMER_NAME VALUES('Manun','Khan','202');
INSERT INTO CUSTOMER_NAME VALUES('Masud','Pathan','203');
INSERT INTO CUSTOMER_NAME VALUES('Simu','JahAN','204');
INSERT INTO CUSTOMER_NAME VALUES('Aria','Enam','205');
SELECT*
FROM CUSTOMER_NAME

```

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

CUSTOMER_FNAME	CUSTOMER_LNAME	CUSTOMER_ID
Masud	Pathan	203
Mashed	Khan	201
Manun	Khan	202
Aria	Enam	205
Simu	Jahan	204

5 rows returned in 0.05 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2008, Oracle. All rights reserved.

9.

```

INSERT INTO CUSTOMER_ADDRESS VALUES( 'BANGLADESH','120/12','5NO','201');

INSERT INTO CUSTOMER_ADDRESS VALUES( 'BANGLADESH','111/2','7NO','202');

INSERT INTO CUSTOMER_ADDRESS VALUES( 'BANGLADESH','114/4','1NO','203');

INSERT INTO CUSTOMER_ADDRESS VALUES( 'BANGLADESH','122/2','3NO','204');

INSERT INTO CUSTOMER_ADDRESS VALUES( 'BANGLADESH','121/7','6NO','205');

```

The screenshot shows the Oracle Database Express Edition interface. In the top navigation bar, there are links for WhatsApp, account TYPE - Google Search, Oracle, Discord, imriyad, For CSE Students, Multisim, Codeforces, Compiler, LightOJ, and other common tools. The main window displays an SQL command window with the following content:

```

SQL Commands x (1) WhatsApp x Google Search x + 
127.0.0.1:8080/apex/f?p=4500:1003:2455868692345569::NO:: 

Autocommit: Display: 10 Save Run

```

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

CUSTOMER_COUNTRY	CUSTOMER_HOUSENO	CUSTOMER_STREETNO	CUSTOMER_ID
BANGLADESH	120/12	5NO	201
BANGLADESH	111/2	7NO	202
BANGLADESH	114/4	1NO	203
BANGLADESH	122/2	3NO	204
BANGLADESH	121/7	6NO	205

5 rows returned in 0.03 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2008, Oracle. All rights reserved.

10.

```
INSERT INTO LOAN_2 VALUES( '101','200000','ACADEMIC','4','201');

INSERT INTO LOAN_2 VALUES( '102','300000','HOME LOAN','5','202');

INSERT INTO LOAN_2 VALUES( '103','400000','CAR LOAN','3','203');

INSERT INTO LOAN_2 VALUES( '105','500000','BUSINESS LOAN','4','204');

INSERT INTO LOAN_2 VALUES( '106','250000','PERSONAL LOAN','4','205');
```

The screenshot shows the Oracle Database Express Edition interface. The top navigation bar includes tabs for SQL Commands, WhatsApp, account TYPE - Google Search, and a plus sign. Below the bar are browser tabs for Oracle, Discord, imriyad, For CSE Students, Multisim, Codeforces, Compiler, LightOJ, and others. The main area shows the Oracle Database Express Edition logo and the user RIYAD123. The SQL Commands tab is active, displaying the following SQL code:

```
INSERT INTO LOAN_2 VALUES('102','300000','HOME LOAN','5','202');
INSERT INTO LOAN_2 VALUES('103','400000','CAR LOAN','3','203');
INSERT INTO LOAN_2 VALUES('105','500000','BUSINESS LOAN','4','204');
INSERT INTO LOAN_2 VALUES('106','250000','PERSONAL LOAN','4','205');
SELECT *
FROM LOAN_2
```

The Results tab is also visible, showing a table with the following data:

LOAN_ID	LOAN_AMOUNT	LOAN_TYPE	MAX_YEAR	CUSTOMER_ID
101	200000	ACADEMIC	4	201
102	300000	HOME LOAN	5	202
103	400000	CAR LOAN	3	203
105	500000	BUSINESS LOAN	4	204
106	250000	PERSONAL LOAN	4	205

Below the table, it says "5 rows returned in 0.03 seconds" and has a "CSV Export" link. The bottom status bar shows "Application Express 2.1.0.00.39", "Copyright © 1999, 2009, Oracle. All rights reserved.", "Language: en-us", and system icons for network, battery, and date/time (2:20 AM, 24-Dec-22).

11.

```
INSERT INTO ACCOUNT_DETAILS VALUES (1010,'DIPON','PERSONAL',30000000,201)

INSERT INTO ACCOUNT_DETAILS VALUES(1011,'MOSHIUR','PERSONAL',4000000,202)

INSERT INTO ACCOUNT_DETAILS VALUES(1012,'MUNNA','NOMINAL',12400,203)

INSERT INTO ACCOUNT_DETAILS VALUES (1013,'MINHAZ','PERSONAL',100000,204)

INSERT INTO ACCOUNT_DETAILS VALUES(1014,'TAREK','NOMINAL',35000,205)
```

The screenshot shows a browser window with the following details:

- Address Bar:** 127.0.0.1:8080/apex/f?p=4500:1003:2455868692345569::NO::
- Toolbar:** Oracle, Discord, imriyad, For CSE Students, Multisim, Codeforces, Compiler, LightOJ, etc.
- Header:** ORACLE Database Express Edition, User: RIVAD123, Home, Logout, Help.
- SQL Commands Input:**

```

INSERT INTO ACCOUNT_DETAILS VALUES (1010,'DIPON','PERSONAL',3000000,201)
INSERT INTO ACCOUNT_DETAILS VALUES(1011,'MOSHIUR','PERSONAL',4000000,202)
INSERT INTO ACCOUNT_DETAILS VALUES(1012,'MUNNA','NOMINAL',12400,203)
INSERT INTO ACCOUNT_DETAILS VALUES (1013,'MINHAZ','PERSONAL',100000,204)
INSERT INTO ACCOUNT_DETAILS VALUES(1014,TAREK,'NOMINAL',35000,205)
SELECT * FROM ACCOUNT_DETAILS
    
```
- Buttons:** Save, Run.
- Results:** A table showing account details:

ACCOUNT_ID	ACCOUNT_NAME	ACCOUNT_TYPE	ACCOUNT_BALANCE	CUSTOMER_ID
1010	DIPON	PERSONAL	3000000	201
1011	MOSHIUR	PERSONAL	4000000	202
1012	MUNNA	NOMINAL	12400	203
1013	MINHAZ	PERSONAL	100000	204
1014	TAREK	NOMINAL	35000	205
- Information:** 5 rows returned in 0.02 seconds, CSV Export.
- Footer:** Application Express 2.1.0.00.39, Copyright © 1999, 2008, Oracle. All rights reserved.

12.

```

INSERT INTO EMPLOYEE VALUES ( 111,'bappy18@gmail.com','@125')

INSERT INTO EMPLOYEE VALUES ( 112,'dionkor90@gmail.com','@1431')

INSERT INTO EMPLOYEE VALUES ( 113,'abdullah@gmail.com','@52845')

INSERT INTO EMPLOYEE VALUES ( 114,'ishan13@gmail.com','@ishan12')

INSERT INTO EMPLOYEE VALUES ( 115,'tamim52@gmail.com','tiger2')

INSERT INTO EMPLOYEE VALUES ( 116,'aniksarkar@gmail.com','#2345')
    
```

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

```

INSERT INTO EMPLOYEE VALUES ( 111,'bappy18@gmail.com' ,@125)
INSERT INTO EMPLOYEE VALUES ( 112,'dionkor90@gmail.com' ,@1431)
INSERT INTO EMPLOYEE VALUES ( 113,'abdullah@gmail.com' ,@52845')
INSERT INTO EMPLOYEE VALUES ( 114,'ishan13@gmail.com' ,@ishan12')
INSERT INTO EMPLOYEE VALUES ( 115,'tamim52@gmail.com' ,tiger2')
INSERT INTO EMPLOYEE VALUES ( 116,'aniksarkar@gmail.com' ,#2345)
SELECT *
FROM EMPLOYEE

```

The results table shows the following data:

EMPLOYEE_ID	EMPLOYEE_EMAIL	EMPLOYEE_PASSWORD
111	bappy18@gmail.com	@125
112	dionkor90@gmail.com	@1431
113	abdullah@gmail.com	@52845
114	ishan13@gmail.com	@ishan12
115	tamim52@gmail.com	tiger2
116	aniksarkar@gmail.com	#2345

6 rows returned in 0.03 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2008, Oracle. All rights reserved.

13.

INSERT INTO EMPLOYEE\_PHONE VALUES (01700963200,111)

INSERT INTO EMPLOYEE\_PHONE VALUES (01960963270,112)

INSERT INTO EMPLOYEE\_PHONE VALUES (01640993200,113)

INSERT INTO EMPLOYEE\_PHONE VALUES (01420363200,114)

INSERT INTO EMPLOYEE\_PHONE VALUES (01662963570,115)

INSERT INTO EMPLOYEE\_PHONE VALUES (01340993200,116)

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

```

INSERT INTO EMPLOYEE_PHONE VALUES (01700963200,111)
INSERT INTO EMPLOYEE_PHONE VALUES (01960963270,112)
INSERT INTO EMPLOYEE_PHONE VALUES (01640993200,113)
INSERT INTO EMPLOYEE_PHONE VALUES (01420363200,114)
INSERT INTO EMPLOYEE_PHONE VALUES (01662963570,115)
INSERT INTO EMPLOYEE_PHONE VALUES (01340993200,116)
SELECT *
FROM EMPLOYEE_PHONE

```

The results table shows the following data:

EMPLOYEE_PHONE	EMPLOYEE_ID
1700963200	111
1960963270	112
1640993200	113
1420363200	114
1662963570	115
1340993200	116

6 rows returned in 0.03 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2008, Oracle. All rights reserved.

14.

```
INSERT INTO EMPLOYEE_NAME VALUES ('DIPON','SAHA',111)  
INSERT INTO EMPLOYEE_NAME VALUES ('DIPONKOR','BISWAS',112)  
INSERT INTO EMPLOYEE_NAME VALUES ('ABDULLAH','ATIK',113)  
INSERT INTO EMPLOYEE_NAME VALUES ('ISHAN','KISHAN',114)  
INSERT INTO EMPLOYEE_NAME VALUES ('TAMIM','ISLAM',115)  
INSERT INTO EMPLOYEE_NAME VALUES ('ANIK','SARKAR',116)
```

The screenshot shows the Oracle Database Express Edition interface. The top navigation bar includes links for WhatsApp, Google Search, Oracle, Discord, imriyad, For CSE Students, Multisim, Codeforces, Compiler, LightOJ, and others. The main window has a toolbar with Home, Logout, and Help buttons. The SQL Commands tab is active, displaying the following SQL code:

```
INSERT INTO EMPLOYEE_NAME VALUES ('DIPON','SAHA',111)  
INSERT INTO EMPLOYEE_NAME VALUES ('DIPONKOR','BISWAS',112)  
INSERT INTO EMPLOYEE_NAME VALUES ('ABDULLAH','ATIK',113)  
INSERT INTO EMPLOYEE_NAME VALUES ('ISHAN','KISHAN',114)  
INSERT INTO EMPLOYEE_NAME VALUES ('TAMIM','ISLAM',115)  
INSERT INTO EMPLOYEE_NAME VALUES ('ANIK','SARKAR',116)  
SELECT *  
FROM EMPLOYEE_NAME
```

The Results tab is active, showing the output of the query:

EMPLOYEE_FNAME	EMPLOYEE_LNAME	EMPLOYEE_ID
DIPON	SAHA	111
DIPONKOR	BISWAS	112
ABDULLAH	ATIK	113
ISHAN	KISHAN	114
TAMIM	ISLAM	115
ANIK	SARKAR	116

Below the table, it says "6 rows returned in 0.00 seconds" and provides a "CSV Export" link. The bottom status bar shows "Application Express 2.1.0.00.39", "Copyright © 1999, 2008, Oracle. All rights reserved.", and system icons for network, battery, and date/time (2:34 AM, 24-Dec-22).

15.

```
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1010,'DIPON','PERSONAL',30000000,111)  
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1011,'MOSHIUR','PERSONAL',4000000,112)  
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1012,'MUNNA','NOMINAL',12400,113)  
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1013,'MINHAZ','PERSONAL',100000,114)  
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1014,'TAREK','NOMINAL',35000,115)  
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1015,'TANIA','PERSONAL',570000,116)
```

```

SQL Commands      WhatsApp      account TYPE - Google Search
User: RYAD123
Home > SQL > SQL Commands
Autocommit Display 10
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1010,'DIPON','PERSONAL',3000000,111)
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1011,'MOSHIUR','PERSONAL',4000000,112)
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1012,'MUNNA','NOMINAL',12400,113)
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1013,'MINHAZ','PERSONAL',100000,114)
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1014,'TAREK','NOMINAL',35000,115)
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1015,'TANIA','PERSONAL',570000,116)
SELECT*
FROM ACCOUNT_DETAILS_1

```

Results Explain Describe Saved SQL History

ACCOUNT_ID	ACCOUNT_NAME	ACCOUNT_TYPE	ACCOUNT_BALANCE	EMPLOYEE_ID
1010	DIPON	PERSONAL	3000000	111
1011	MOSHIUR	PERSONAL	4000000	112
1012	MUNNA	NOMINAL	12400	113
1013	MINHAZ	PERSONAL	100000	114
1014	TAREK	NOMINAL	35000	115
1015	TANIA	PERSONAL	570000	116

6 rows returned in 0.08 seconds [CSV Export](#)

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Language: en-us

16.

INSERT INTO TRANSACTION VALUES ('TAKA',500000,1010)

INSERT INTO TRANSACTION VALUES ('DOLLAR',550000,1011)

INSERT INTO TRANSACTION VALUES ('RUPEE',200000,1012)

INSERT INTO TRANSACTION VALUES ('RIYAL',600000,1013)

INSERT INTO TRANSACTION VALUES ('EURO',540000,1014)

```

SQL Commands      WhatsApp      account TYPE - Google Search
User: RYAD123
Home > SQL > SQL Commands
Autocommit Display 10
INSERT INTO TRANSACTION VALUES ('TAKA',500000,1010)
INSERT INTO TRANSACTION VALUES ('DOLLAR',550000,1011)
INSERT INTO TRANSACTION VALUES ('RUPEE',200000,1012)
INSERT INTO TRANSACTION VALUES ('RIYAL',600000,1013)
INSERT INTO TRANSACTION VALUES ('EURO',540000,1014)
SELECT*
FROM TRANSACTION

```

Results Explain Describe Saved SQL History

CURRENCY	AMOUNT	ACCOUNT_ID
TAKA	500000	1010
DOLLAR	550000	1011
RUPEE	200000	1012
RIYAL	600000	1013
EURO	540000	1014

5 rows returned in 0.01 seconds [CSV Export](#)

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Language: en-us

17.

```
INSERT INTO DEPARTMENT VALUES (121,'NAFIUL','SYED','101A')
```

```
INSERT INTO DEPARTMENT VALUES (122,'SHAHRIAR','REZA','101A')
```

```
INSERT INTO DEPARTMENT VALUES (123,'MAHADI','RIYAD','101A')
```

```
INSERT INTO DEPARTMENT VALUES (124,'DIPON','BISWAS','101A')
```

```
INSERT INTO DEPARTMENT VALUES (125,'JULKAR','NINE','101A')
```

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

```
INSERT INTO DEPARTMENT VALUES (121,'NAFIUL','SYED','101A')
INSERT INTO DEPARTMENT VALUES (122,'SHAHRIAR','REZA','101A')
INSERT INTO DEPARTMENT VALUES (123,'MAHADI','RIYAD','101A')
INSERT INTO DEPARTMENT VALUES (124,'DIPON','BISWAS','101A')
INSERT INTO DEPARTMENT VALUES (125,'JULKAR','NINE','101A')
SELECT*
FROM DEPARTMENT
```

The Results section displays the following table:

DEPARTMENT_ID	DEPARTMENT_FNAME	DEPARTMENT_LNAME	BANK_CODE
121	NAFIUL	SYED	101A
122	SHAHRIAR	REZA	101A
123	MAHADI	RIYAD	101A
124	DIPON	BISWAS	101A
125	JULKAR	NINE	101A

5 rows returned in 0.06 seconds [CSV Export](#)

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18.

```
INSERT INTO DEPARTMENT_PHONE VALUES(01823463781,121)
```

```
INSERT INTO DEPARTMENT_PHONE VALUES(01523493781,122)
```

```
INSERT INTO DEPARTMENT_PHONE VALUES(01824463481,123)
```

```
INSERT INTO DEPARTMENT_PHONE VALUES(01623463481,124)
```

```
INSERT INTO DEPARTMENT_PHONE VALUES(01923433781,125)
```

```

INSERT INTO DEPARTMENT_PHONE VALUES(01823463781,121)
INSERT INTO DEPARTMENT_PHONE VALUES(01523493781,122)
INSERT INTO DEPARTMENT_PHONE VALUES(01824463481,123)
INSERT INTO DEPARTMENT_PHONE VALUES(01623463481,124)
INSERT INTO DEPARTMENT_PHONE VALUES(01923433781,125)
SELECT *
FROM DEPARTMENT_PHONE

```

Results

DEPARTMENT_PHONE	DEPARTMENT_ID
1823463781	121
1523493781	122
1824463481	123
1623463481	124
1923433781	125

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

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19.

```

INSERT INTO CREDIT_CARD VALUES(1511,5000000,'12-AUG-2027','201')
INSERT INTO CREDIT_CARD VALUES(1512,5200000,'15-JUL-2026','202')
INSERT INTO CREDIT_CARD VALUES(1513,10000000,'03-AUG-2026','203')
INSERT INTO CREDIT_CARD VALUES(1514,4000000,'10-SEP-2025','204')
INSERT INTO CREDIT_CARD VALUES(1515,7000000,'12-JAN-2023','205')

```

```

INSERT INTO CREDIT_CARD VALUES(1511,5000000,'12-AUG-2027','201')
INSERT INTO CREDIT_CARD VALUES(1512,5200000,'15-JUL-2026','202')
INSERT INTO CREDIT_CARD VALUES(1513,10000000,'03-AUG-2026','203')
INSERT INTO CREDIT_CARD VALUES(1514,4000000,'10-SEP-2025','204')
INSERT INTO CREDIT_CARD VALUES(1515,7000000,'12-JAN-2023','205')
SELECT *
FROM CREDIT_CARD

```

Results

CREDIT_NUMBER	LIMIT	EXP_DATE	CUSTOMER_ID
1511	5000000	12-AUG-27	201
1512	5200000	15-JUL-26	202
1513	10000000	03-AUG-26	203
1514	4000000	10-SEP-25	204
1515	7000000	12-JAN-23	205

5 rows returned in 0.11 seconds [CSV Export](#)

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## **CONSTRAINT:**

1.

ALTER TABLE ACCOUNT\_DETAILS ADD CONSTRAINT ACCOUNT\_BALANCE CHECK  
(ACCOUNT\_BALANCE>1000)

The screenshot shows a browser window with the Oracle Database Express Edition interface. The URL is 127.0.0.1:8080/apex/f?p=4500:1003:2455868692345569::NO:::. The SQL Commands tab is selected. The query entered is: `INSERT INTO ACCOUNT_DETAILS VALUES (1010,'DIPON','PERSONAL',300,201)`. A message box displays the error: `ORA-02290: check constraint (RIYAD123.ACCOUNT_BALANCE) violated`. The status bar at the bottom shows "0.13 seconds".

2.

ALTER TABLE CUSTOMER\_PHONE ADD CONSTRAINT CUSTOMER\_PHONE UNIQUE(CUSTOMER\_PHONE)

The screenshot shows a browser window with the Oracle Database Express Edition interface. The URL is 127.0.0.1:8080/apex/f?p=4500:1003:2455868692345569::NO:::. The SQL Commands tab is selected. The query entered is: `INSERT INTO CUSTOMER_PHONE VALUES('01765432198', '201');  
INSERT INTO CUSTOMER_PHONE VALUES('017634532198', '202');  
INSERT INTO CUSTOMER_PHONE VALUES('018865432198', '203');  
INSERT INTO CUSTOMER_PHONE VALUES('01665432198', '204');  
INSERT INTO CUSTOMER_PHONE VALUES('01364272198', '205');  
INSERT INTO CUSTOMER_PHONE VALUES('01364272198', '205');`. A message box displays the error: `ORA-00001: unique constraint (RIYAD123.CUSTOMER_PHONE) violated`. The status bar at the bottom shows "0.00 seconds".

3.

```
ALTER TABLE ACCOUNT_DETAILS_1 MODIFY (ACCOUNT_NAME NOT NULL);
```

The screenshot shows a browser window with multiple tabs open. The active tab is titled "SQL Commands". The URL bar shows "127.0.0.1:8080/apex/f?p=4500:1003:2455868692345569::NO:::". Below the tabs, there's a toolbar with various icons. The main content area is titled "ORACLE Database Express Edition" and shows a SQL command being run:

```
INSERT INTO ACCOUNT_DETAILS_1 VALUES(1010,NULL,'PERSONAL',3000000,113)
```

Below the command, an error message is displayed in a box:

```
ORA-01400: cannot insert NULL into ("RIYAD123"."ACCOUNT_DETAILS_1"."ACCOUNT_NAME")
```

At the bottom of the page, it says "0.02 seconds". At the very bottom, there's a footer with "Language: en-us" and copyright information: "Application Express 2.1.0.00.39 Copyright © 1999, 2008, Oracle. All rights reserved."

**QUERY:**

1. Write a query to show the amount and account id from transaction table where the amount is greater than the amount of account id =1010

```
SELECT ACCOUNT_ID,AMMOUNT  
FROM TRANSACTION  
WHERE AMMOUNT >  
(SELECT AMMOUNT  
FROM TRANSACTION  
WHERE ACCOUNT_ID=1010);
```

```

SELECT ACCOUNT_ID, AMOUNT
FROM TRANSACTION
WHERE ACCOUNT_ID = 1010;
  
```

ACCOUNT_ID	AMOUNT
1011	550000
1013	600000
1014	540000

3 rows returned in 0.59 seconds [CSV Export](#)

2. Write a query to show the ACCOUNT\_NAME, ACCOUNT\_TYPE , ACCOUNT\_BALANCE from ACCOUNT\_DETAILS where account type is equal to ACOOUNT\_ID=1011 and ACCOUNT\_BALANCE is greater than the ACCOUNT\_BALANCE of account id =1013.

```

SELECT ACCOUNT_NAME, ACCOUNT_TYPE , ACCOUNT_BALANCE
FROM ACCOUNT_DETAILS
WHERE ACCOUNT_TYPE =
  (SELECT ACCOUNT_TYPE
   FROM ACCOUNT_DETAILS
   WHERE ACOOUNT_ID=1011)
AND ACCOUNT_BALANCE >
  (SELECT ACCOUNT_BALANCE
   FROM ACCOUNT_DETAILS
   WHERE ACOOUNT_ID = 1013);
  
```

The screenshot shows the Oracle Database Express Edition interface. In the top navigation bar, there are tabs for 'SQL Commands' and 'WhatsApp'. Below the tabs, the URL is 127.0.0.1:8080/apex/f?p=4500:1003:1197242155257726::NO:::. The main content area displays an SQL query:

```

SELECT ACCOUNT_NAME,ACCOUNT_TYPE ,ACCOUNT_BALANCE FROM ACCOUNT_DETAILS
WHERE ACCOUNT_TYPE =
(SELECT ACCOUNT_TYPE FROM ACCOUNT_DETAILS WHERE ACCOUNT_ID=1011)
AND ACCOUNT_BALANCE>
(SELECT ACCOUNT_BALANCE
FROM ACCOUNT_DETAILS
WHERE ACCOUNT_ID = 1013);

```

Below the query, there are buttons for 'Save' and 'Run'. The results section shows a table with two rows:

ACCOUNT_NAME	ACCOUNT_TYPE	ACCOUNT_BALANCE
DIPON	PERSONAL	3000000
MOSHIUR	PERSONAL	4000000

2 rows returned in 0.03 seconds [CSV Export](#)

At the bottom, the status bar shows 'Language: en-us', 'meet.google.com is sharing your screen.', 'Stop sharing', 'Hide', 'Application Express 2.1.0.00.39', 'Copyright © 1999, 2008, Oracle. All rights reserved.', and network speed information: 26.7 Kbps, 172.5 Kbps.

3. Write a query to show the Minimum loan amount and maximum loan amount from loan table.

SELECT MIN(LOAN\_AMOUNT), MAX(LOAN\_AMOUNT)  
FROM LOAN;

The screenshot shows the Oracle Database Express Edition interface. In the top navigation bar, there are tabs for 'SQL Commands' and 'WhatsApp'. Below the tabs, the URL is 127.0.0.1:8080/apex/f?p=4500:1003:1197242155257726::NO:::. The main content area displays an SQL query:

```

SELECT MIN(LOAN_AMOUNT), MAX(LOAN_AMOUNT)
FROM LOAN;

```

Below the query, there are buttons for 'Save' and 'Run'. The results section shows a table with one row:

MIN(LOAN_AMOUNT)	MAX(LOAN_AMOUNT)
20000	500000

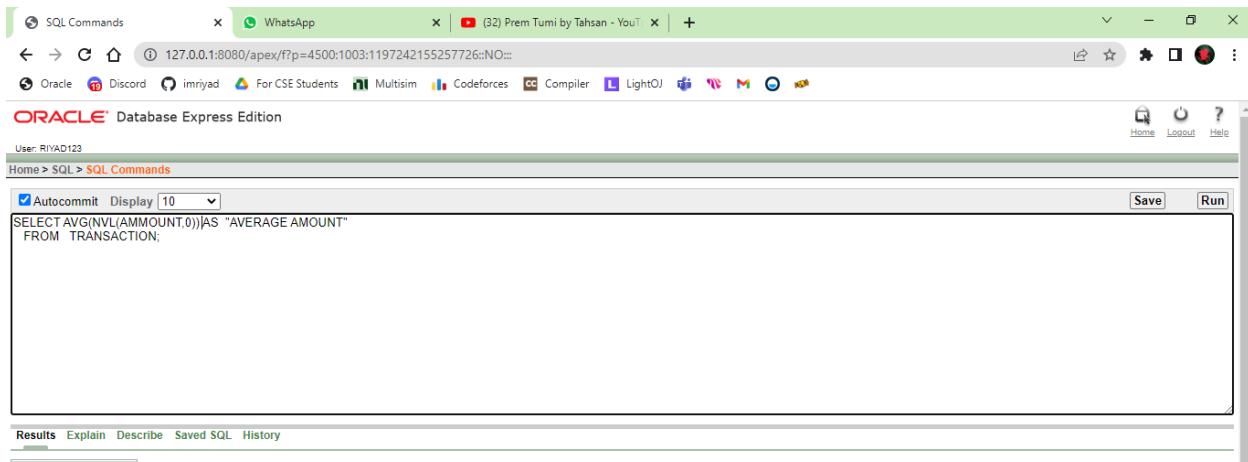
1 rows returned in 1.78 seconds [CSV Export](#)

At the bottom, the status bar shows 'Language: en-us', 'meet.google.com is sharing your screen.', 'Stop sharing', 'Hide', 'Application Express 2.1.0.00.39', 'Copyright © 1999, 2008, Oracle. All rights reserved.', and network speed information: 57.3 Kbps, 843.1 Kbps.

4. Write a query to show the average amount (where null is filled with 0) from transaction table and named this column as "AVERAGE AMOUNT"

```
SELECT AVG(NVL(AMMOUNT,0)) AS "AVERAGE AMOUNT"
```

```
FROM TRANSACTION;
```



```
SQL Commands
127.0.0.1:8080/apex/f?p=4500:1003:1197242155257726::NO::
Oracle Discord imriyad For CSE Students Multisim Codeforces Compiler LightOJ WhatsApp (32) Prem Tumi by Tahsan - YouT YouTube

ORACLE Database Express Edition
User: RIYAD123
Home > SQL > SQL Commands
Autocommit Display 10 Save Run
SELECT AVG(NVL(AMMOUNT,0)) AS "AVERAGE AMOUNT"
FROM TRANSACTION;

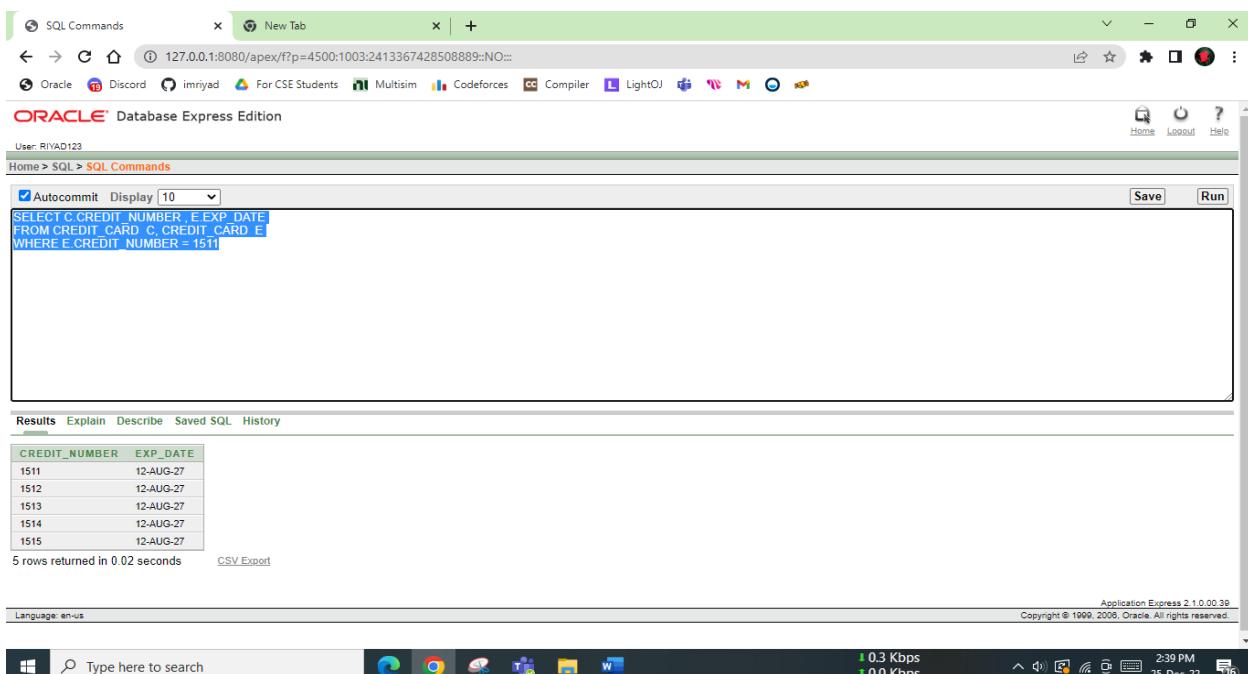
Results Explain Describe Saved SQL History
AVERAGE AMOUNT
47800
1 rows returned in 0.05 seconds CSV Export
```

5. Write a query to copy the expiry date of credit number 1511 to all rows

```
SELECT C.CREDIT_NUMBER , E.EXP_DATE
```

```
FROM CREDIT_CARD C, CREDIT_CARD E
```

```
WHERE E.CREDIT_NUMBER = 1511
```



```
SQL Commands
127.0.0.1:8080/apex/f?p=4500:1003:2413367428508889::NO::
Oracle Discord imriyad For CSE Students Multisim Codeforces Compiler LightOJ WhatsApp (32) Prem Tumi by Tahsan - YouT YouTube

ORACLE Database Express Edition
User: RIYAD123
Home > SQL > SQL Commands
Autocommit Display 10 Save Run
SELECT C.CREDIT_NUMBER , E.EXP_DATE
FROM CREDIT_CARD C, CREDIT_CARD E
WHERE E.CREDIT_NUMBER = 1511;

Results Explain Describe Saved SQL History
CREDIT_NUMBER EXP_DATE
1511 12-AUG-27
1512 12-AUG-27
1513 12-AUG-27
1514 12-AUG-27
1515 12-AUG-27
5 rows returned in 0.02 seconds CSV Export

Language: en-us Application Express 2.1.0.00.39
Copyright © 1999, 2008, Oracle. All rights reserved.
24-Dec-22 6:45 PM
```

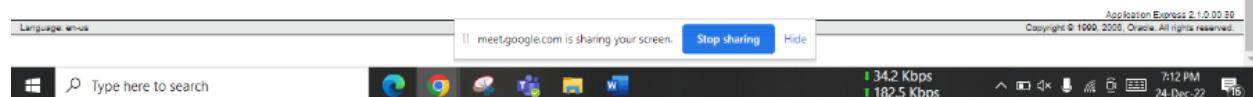
6. Write a query to join account name and customer first name from account details and customer name table and who have M in their name.

```
SELECT A.ACCOUNT_NAME,C.Customer_Fname  
FROM ACCOUNT_DETAILS A, CUSTOMER_NAME C  
WHERE A.ACOOUNT_ID = C.CUSTOMER_ID  
AND ACCOUNT_NAME LIKE 'M%'
```

The screenshot shows the Oracle Database Express Edition interface. The SQL editor contains the following query:

```
SELECT A.ACCOUNT_NAME,C.Customer_Fname  
FROM ACCOUNT_DETAILS A, CUSTOMER_NAME C  
WHERE A.ACOOUNT_ID = C.CUSTOMER_ID  
AND ACCOUNT_NAME LIKE 'M%'
```

The results pane below the editor shows the message "no data found".



7. Create a view, CUSTOMERVU, that contains First name and Last name of customer id 201 and give the column name FIRST\_NAME and LAST\_NAME.

```
CREATE VIEW      CUSTOMERVU  
AS SELECT      CUSTOMER_FNAME FIRST_NAME, CUSTOMER_LNAME LAST_NAME  
FROM          CUSTOMER_NAME  
WHERE         CUSTOMER_ID= 201
```

User: RIVAD123

Home > SQL > SQL Commands

Autocommit Display 10 Save Run

```
CREATE VIEW CUSTOMERVU
AS SELECT CUSTOMER.FNAME FIRST_NAME, CUSTOMER_LNAME LAST_NAME
FROM CUSTOMER
WHERE CUSTOMER_ID= 201
SELECT *
FROM CUSTOMERVU
```

Results Explain Describe Saved SQL History

FIRST_NAME	LAST_NAME
Murshed	Khan

1 rows returned in 0.80 seconds [CSV Export](#)

Application Express 2.1.0.00.39  
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Language: en-us

Type here to search

14.4 Kbps  
94.8 Kbps

7:56 PM  
24-Dec-22

8. Create a view named BRANCHVU, that contains BRANCH\_CODE , BRANCH\_NAME of branch code 112255 and 112266 and give the column name as CODE and NAME respectively.

```
CREATE VIEW BRANCHVU
AS SELECT BRANCH_CODE CODE, BRANCH_NAME NAME
FROM BRANCH
WHERE BRANCH_CODE= 112255
OR BRANCH_CODE= 112266
```

```

CREATE VIEW BRANCHVU
AS SELECT BRANCH_CODE CODE, BRANCH_NAME NAME
FROM BRANCH
WHERE BRANCH_CODE= 112255
OR BRANCH_CODE= 112266
SELECT*
FROM BRANCHVU

```

Results

CODE	NAME
112255	GULSHAN
112266	BANANI

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

Application Express 2.1.0.0.39  
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9. Write A QUERY to show the ACCOUNT\_ID,ACCOUNT\_NAME and  $10*(ACCOUNT_BALANCE+200)$  as UPDATED\_BALANCE column from ACCOUNT\_DETAILS table.

`SELECT ACCOUNT_ID,ACCOUNT_NAME,  $10*(ACCOUNT_BALANCE+200)$  UPDATED_BALANCE  
FROM ACCOUNT_DETAILS`

```

SELECT ACCOUNT_ID,ACCOUNT_NAME,  $10*(ACCOUNT_BALANCE+200)$  UPDATED_BALANCE
FROM ACCOUNT_DETAILS

```

Results

ACCOUNT_ID	ACCOUNT_NAME	UPDATED_BALANCE
1010	DIPON	300002000
1011	MOSHIUR	40002000
1012	MUNNA	126000
1013	MINHAZ	1002000
1014	TAREK	352000

5 rows returned in 1.17 seconds [CSV Export](#)

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10. Using Literal Character Strings write a query to show all the output like: MUNNA HAS 12400 TK IN HIS ACCOUNT .

That means ACCOUNT\_NAME concate "HAS" concate ACCOUNT\_BALANCE and named this column as AMOUNT\_OF\_TK.

```
SELECT ACCOUNT_NAME||' HAS'||ACCOUNT_BALANCE||' TK IN HIS ACCOUNT' AMOUNT_OF_TK  
FROM ACCOUNT_DETAILS
```

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

```
SELECT ACCOUNT_NAME||' HAS'||ACCOUNT_BALANCE||' TK IN HIS ACCOUNT' AMOUNT_OF_TK  
FROM ACCOUNT_DETAILS
```

The results pane displays the output:

AMOUNT_OF_TK
DIPON HAS 3000000 TK IN HIS ACCOUNT
MOSHUR HAS 4000000 TK IN HIS ACCOUNT
MUNNA HAS 12400 TK IN HIS ACCOUNT
MINHAZ HAS 100000 TK IN HIS ACCOUNT
TAREK HAS 35000 TK IN HIS ACCOUNT

Below the results, it says "5 rows returned in 0.05 seconds". The bottom status bar shows "Application Express 2.1.0.00.39" and "Copyright © 1999, 2008, Oracle. All rights reserved."