18CSC303J – Database Management System
Experiment 4

1.Create the following table **Customer_Account_Details**

Column Name	Data type	Constraints
Cust_ID	Number(5)	Primary key of the table
Cust_Last_Name	Varchar2(20)	Not Null column
Cust_Mid_Name	Char(3)	
Cust_First_Name	Varchar2(20)	
Account_No	Number(4)	Unique column
Account_Type	Varchar2(15)	
Bank_Branch	Varchar2(20)	
Cust_Email	Varchar2(30)	Unique column

create table Customer_Account_Details_049(

Cust_ID number(5) constraint CAD_Pk primary key,

Cust_Last_Name varchar2(20) constraint CAD_CLastName not null,

Cust_Mid_Name char(3),

Cust_First_Name varchar2(20),

Account_No number(4) constraint CAD_AcNo unique,

Account_Type varchar2(15),

Bank_Branch varchar2(20),

Cust_Email varchar2(30) constraint CAD_CEmail unique

);

desc Customer_Account_Details_046;

TABLE CUSTOMER_ACCOUNT_DETAILS_049

Column	Null?	Type
CUST_ID	NOT NULL	NUMBER(5,0)
CUST_LAST_NAME	NOT NULL	VARCHAR2(20)
CUST_MID_NAME	-	CHAR(3)
CUST_FIRST_NAME	-	VARCHAR2(20)
ACCOUNT_NO	-	NUMBER(4,0)
ACCOUNT_TYPE	-	VARCHAR2(15)
BANK_BRANCH	-	VARCHAR2(20)
CUST_EMAIL	-	VARCHAR2(30)

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8 rows selected.

insert into Customer_Account_Details_049

values (1, 'Jenson', null, 'Laura', 2739, 'Savings', 'Indus Bank', 'laura.jensen@example.com');

insert into Customer_Account_Details_049

values (2, 'Viren', null, 'Parmar', 3057, 'Current', 'HDFC Bank', 'viren@gmail.com');

insert into Customer_Account_Details_049

values (3, 'Sachin', 'Kalam', 'Tilokani', 7747, 'Salary', 'SBI Bank', 'sachin@gmail.com');

insert into Customer_Account_Details_049

values (4, 'Jakin', 'Deepak', 'Patel', 4089, 'Current', 'Bank of Baroda', 'jakin@gmail.com');

insert into Customer_Account_Details_049

values (5, 'Param', null, 'Shah', 3529, 'NRI', 'Capitol Bank', 'param@gmail.com');

insert into Customer_Account_Details_049

values (12, 'Neel', null, 'Thaker', 4989, 'Savings', 'LIC Bank', 'neel@gmail.com');

select * from Customer_Account_Details_049;

CUST_ID	CUST_LAST_NAME	CUST_MID_NAME	CUST_FIRST_NAME	ACCOUNT_NO	ACCOUNT_TYPE	BANK_BRANCH	CUST_EMAIL
4	Jakin	De	Patel	4089	Current	Bank of Baroda	jakin@gmail.com
5	Param	-	Shah	3529	NRI	Capitol Bank	param@gmail.com
12	Neel	-	Thaker	4989	Savings	LIC Bank	neel@gmail.com
2	Viren	-	Parmar	3057	Current	HDFC Bank	viren@gmail.com
3	Sachin	Kal	Tilokani	7747	Salary	SBI Bank	sachin@gmail.com
1	Shushrut	-	Kumar	2739	Savings	Axis Bank	shushrut@gmail.com

Download CSV

6 rows selected.

2. Create the table **CustomerLoan** and **Implement the Primary Key and Foreign Key Constraints**

Column Name	Data type	Constraints
LoanNo	Number(4)	It is the primary key of the table
Cust_ID	Number(5)	It can take only those values which are present in the Cust_ID of the Customer_Account_Details Table
Amount_In_dollar	Number(6,2)	

create table CustomerLoan_049(

LoanNo number(4) constraint CL_LNo primary key,

Cust_ID number(5) constraint CL_CID references Customer_Account_Details_049(Cust_ID),

Ammount_In_Dollar number(6,2));

TABLE CUSTOMERLOAN_049

Column	Null?	Type
LOANNO	NOT NULL	NUMBER(4,0)
CUST_ID	-	NUMBER(5,0)
AMMOUNT_IN_DOLLAR	-	NUMBER(6,2)

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3 rows selected.

3. **Implementation of Self Referencing Foreign key in the table Employee_Details**

Column Name	Data type	Constraints
Employee_ID	Number(6)	Primary key of the table
Employee_Last_Name	Varchar2(20)	
Employee_Mid_Name	Varchar2(3)	
Employee_First_Name	Varchar2(20)	
Employee_Email	Varchar2(30)	
Employee_Dept	Number(2)	Default 'HR'
Manager_ID	Varchar2(30)	It can take only those values which are present in Employee_ID column

create table Employee_Details_049(

Employee_ID number(6) constraint ED_Pkey primary key,

Employee_Last_Name varchar2(20),

Employee_Mid_Name varchar2(3),

Employee_First_Name varchar2(20),

Employee_Email varchar2(30),

Employee_Dept varchar2(15) default 'HR',

Manager_ID number(6) constraint ED_MID references Employee_Details_049(Employee_ID)

);

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TABLE EMPLOYEE_DETAILS_049
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Column	Null?	Type
EMPLOYEE_ID	NOT NULL	NUMBER(6,0)
EMPLOYEE_LAST_NAME	-	VARCHAR2(20)
EMPLOYEE_MID_NAME	-	VARCHAR2(3)
EMPLOYEE_FIRST_NAME	-	VARCHAR2(20)
EMPLOYEE_EMAIL	-	VARCHAR2(30)
EMPLOYEE_DEPT	-	VARCHAR2(15)
MANAGER_ID	-	NUMBER(6,0)

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7 rows selected.

insert into Employee_Details_049(Employee_ID,Employee_Last_Name,Employee_Mid_Name,Employee_First_Name,Employee_Email)

values

(6, 'James', null, 'Milner', 'james@gmail.com');

insert into Employee_Details_049(Employee_ID,Employee_Last_Name,Employee_Mid_Name,Employee_First_Name,Employee_Email,Manager_ID)

values

(7, 'Sergio', 'Ruk' , 'Ramos', 'sergio@gmail.com',6);

insert into Employee_Details_049

values

(8, 'Toni', null , 'Kroos', 'toni@gmail.com', 'Production' , 7);

insert into Employee_Details_049

values

(9, 'Luka', null , 'Modric', 'luka@gmail.com', 'R&D' , null);

insert into Employee_Details_049

values

(10, 'Karim', null , 'Benzema', 'karim@gmail.com', 'Production' , 9);

select * from Employee_Details_049;

EMPLOYEE_ID	EMPLOYEE_LAST_NAME	EMPLOYEE_MID_NAME	EMPLOYEE_FIRST_NAME	EMPLOYEE_EMAIL	EMPLOYEE_DEPT	MANAGER_ID
6	James	-	Milner	james@gmail.com	HR	-
7	Sergio	Ruk	Ramos	sergio@gmail.com	HR	6
9	Luka	-	Modric	luka@gmail.com	R&D	-
8	Toni	-	Kroos	toni@gmail.com	Production	7
10	Karim	-	Benzema	karim@gmail.com	Production	9

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5 rows selected.

4. **Implementation of Check Constraints in the table customer fixed deposit**

Column Name	Data type	Constraints
FixedDeposit_No	Number(4)	It is the primary key of the table
Cust_ID	Number(5)	It can take only those values which are present in the Cust_ID of the Customer_Account_Details Table
Amount_In_dollar	Number(6,2)	
Rate_Of_Intrest	Number(3,1)	It can take values only between 2.5 to 12.0

create table Customer_Fixed_Deposit_049(

FixedDeposit_No number(4) constraint CFD_Pkey primary key,

Cust_ID number(5) constraint CFD_CID references Customer_Account_Details_049(Cust_ID),

Account_No number(4),

Amount_In_Dollars number(7,2),

Rate_Of_Interest number(3,1) constraint CFD_ROI check (Rate_Of_Interest between 2.5 and 12.0)

);

desc Customer_Fixed_Deposit_049;

TABLE CUSTOMER_FIXED_DEPOSIT_049

Column	Null?	Type
FIXEDDEPOSIT_NO	NOT NULL	NUMBER(4,0)
CUST_ID	-	NUMBER(5,0)
ACCOUNT_NO	-	NUMBER(4,0)
AMOUNT_IN_DOLLARS	-	NUMBER(7,2)
RATE_OF_INTEREST	-	NUMBER(3,1)

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5 rows selected.

insert into Customer_Fixed_Deposit_049

values

(9320, 1, 4457, 85907.00, 3.4);

insert into Customer_Fixed_Deposit_049

values

(7837, 2, 8615, 40254.28, 4.5);

insert into Customer_Fixed_Deposit_049

values

(8072, 3, 3376, 66406.30, 8.7);

insert into Customer_Fixed_Deposit_049

values

(6422, 4, 8997, 15000.30, 5.9);

insert into Customer_Fixed_Deposit_049

values

(7720, 5, 8868, 12374.31, 11.5);

select * from Customer_Fixed_Deposit_049;

FIXEDDEPOSIT_NO	CUST_ID	ACCOUNT_NO	AMOUNT_IN_DOLLARS	RATE_OF_INTEREST
9320	1	4457	85907	3.4
8072	3	3376	66406.3	8.7
6422	4	8997	15000.3	5.9
7720	5	8868	12374.31	11.5
7837	2	8615	40254.28	4.5

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5 rows selected.

5. Alter the table **customer fixed deposit by dropping the primary key.**

alter table Customer_Fixed_Deposit_049 drop constraint CFD_Pkey;

TABLE CUSTOMER_FIXED_DEPOSIT_049

Column	Null?	Type
FIXEDDEPOSIT_NO	-	NUMBER(4,0)
CUST_ID	-	NUMBER(5,0)
ACCOUNT_NO	-	NUMBER(4,0)
AMOUNT_IN_DOLLARS	-	NUMBER(7,2)
RATE_OF_INTEREST	-	NUMBER(3,1)

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5 rows selected.

6. Alter table customer fixed deposit by adding primary key constraint to account no.

alter table Customer_Fixed_Deposit_049 add constraint CFD_Pkey primary key(Account_No);

TABLE CUSTOMER_FIXED_DEPOSIT_049

Column	Null?	Type
FIXEDDEPOSIT_NO	-	NUMBER(4,0)
CUST_ID	-	NUMBER(5,0)
ACCOUNT_NO	NOT NULL	NUMBER(4,0)
AMOUNT_IN_DOLLARS	-	NUMBER(7,2)
RATE_OF_INTEREST	-	NUMBER(3,1)

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5 rows selected.

7. Select all the Cust_Last_name fron customer_account_details.

select Cust_Last_Name from Customer_Account_Details_049;

CUST_LAST_NAME
Jakin
Param
Neel
Viren
Sachin
Shushrut

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8. Select distinct the Cust_Last_name fron customer_account_details.

select DISTINCT(Cust_Last_Name) from Customer_Account_Details_049;

CUST_LAST_NAME
Shushrut
Param
Jakin
Neel
Viren
Sachin

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9. *List all customers with an account balance > $10000*

select * from Customer_Fixed_Deposit_049 where Amount_In_Dollars > 10000;

FIXEDDEPOSIT_NO	CUST_ID	ACCOUNT_NO	AMOUNT_IN_DOLLARS	RATE_OF_INTEREST
9320	1	4457	85907	3.4
8072	3	3376	66406.3	8.7
6422	4	8997	15000.3	5.9
7720	5	8868	12374.31	11.5
7837	2	8615	40254.28	4.5

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5 rows selected.

10. List the Cust_ID, Account_No of 'Kumar'

select Cust_ID,Account_No from Customer_Account_Details_049 where Cust_First_Name = 'Kumar';

CUST_ID	ACCOUNT_NO
1	2739

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11. *List all Cust_ID, Cust_Last_Name where Account_type is 'Savings' and Bank_Branch is 'AXIS Bank'.*

select Cust_ID,Cust_Last_Name from Customer_Account_Details_049 where Account_Type = 'Savings' AND Bank_Branch = 'AXIS Bank';

CUST_ID	CUST_LAST_NAME
12	Neel

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12. *List all Cust_ID, Cust_Last_Name where neither Account_type is 'Savings' and nor Bank_Branch is 'Capitol Bank'*

select Cust_ID,Cust_Last_Name from Customer_Account_Details_049 where Account_Type != 'Savings' AND Bank_Branch != 'Capitol Bank';

CUST_ID	CUST_LAST_NAME
4	Jakin
2	Viren
3	Sachin

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3 rows selected.

13. List all Cust_ID, Cust_Last_Name where either Account_type is

'Savings' or Bank_Branch is 'LIC Bank'.

select Cust_ID,Cust_Last_Name from Customer_Account_Details_049 where Account_Type = 'Savings' OR Bank_Branch = 'LIC Bank';

CUST_ID	CUST_LAST_NAME
12	Neel
1	Shushrut

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2 rows selected.

14. List all Cust_ID with balance in the range $10000.00 to $20000.00.

select Cust_ID from Customer_Fixed_Deposit_049 where Amount_In_Dollars between 10000.00 and 20000.00;

CUST_ID
4
5

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2 rows selected.

15. List all customers who have account in AXIS Bank or HDFC Bank

select * from Customer_Account_Details_049 where Bank_Branch in ('AXIS Bank','HDFC Bank');

CUST_ID	CUST_LAST_NAME	CUST_MID_NAME	CUST_FIRST_NAME	ACCOUNT_NO	ACCOUNT_TYPE	BANK_BRANCH	CUST_EMAIL
2	Viren	-	Parmar	3057	Current	HDFC Bank	viren@gmail.com

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16. List all Accounts where the Bank_Branch begins with a 'A' and has 'X' as the second character

select Account_No,Bank_Branch from Customer_Account_Details_049 where Bank_Branch like 'CA%';

ACCOUNT_NO	BANK_BRANCH
3529	Capitol Bank

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17. List all Accounts where the Bank_Branch column has 'B' as the second character.

select Account_No,Bank_Branch from Customer_Account_Details_049 where Bank_Branch like '_B%';

ACCOUNT_NO	BANK_BRANCH
7747	SBI Bank

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18. List employees who have not been assigned a Manager yet.

select * from Employee_Details_049 where Manager_ID is null;

EMPLOYEE_ID	EMPLOYEE_LAST_NAME	EMPLOYEE_MID_NAME	EMPLOYEE_FIRST_NAME	EMPLOYEE_EMAIL	EMPLOYEE_DEPT	MANAGER_ID
6	James	-	Milner	james@gmail.com	HR	-
9	Luka	-	Modric	luka@gmail.com	R&D	-

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2 rows selected.

19. List employees who have been assigned to some Manager.

select * from Employee_Details_049 where Manager_ID is not null;

EMPLOYEE_ID	EMPLOYEE_LAST_NAME	EMPLOYEE_MID_NAME	EMPLOYEE_FIRST_NAME	EMPLOYEE_EMAIL	EMPLOYEE_DEPT	MANAGER_ID
7	Sergio	Ruk	Ramos	sergio@gmail.com	HR	6
8	Toni	-	Kroos	toni@gmail.com	Production	7
10	Karim	-	Benzema	karim@gmail.com	Production	9

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3 rows selected.

20. List the Cust_ID and their account balances, in the increasing order of the balance

select Cust_ID,Amount_In_Dollars from Customer_Fixed_Deposit_049 order by Amount_In_Dollars;

CUST_ID	AMOUNT_IN_DOLLARS
5	12374.31
4	15000.3
2	40254.28
3	66406.3
1	85907

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5 rows selected.