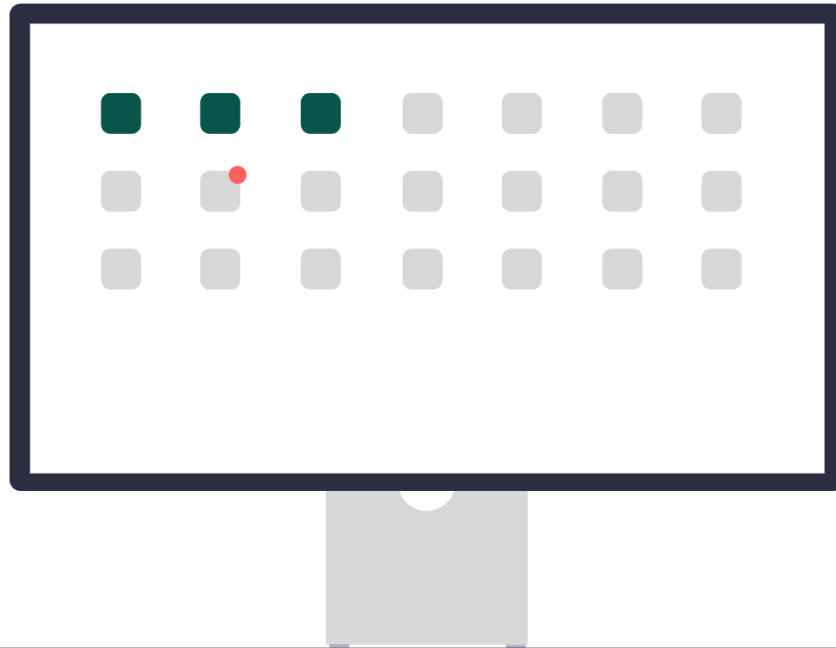


Lab Report of CSE302



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Task 2 - SCHEMA MODIFICATIONS

1. ADD DOB TO CUSTOMER TABLE

ALTER TABLE CUSTOMER ADD date_of_birth DATE;

CUSTOMER

CUSTOMER_NO	CUSTOMER_NAME	CUSTOMER_CITY	date_of_birth
empty			

2. DROP DOB FROM CUSTOMER

ALTER TABLE CUSTOMER DROP COLUMN date_of_birth;

CUSTOMER

CUSTOMER_NO	CUSTOMER_NAME	CUSTOMER_CITY
empty		

3. RENAME DEPOSITOR ACCOUNT_NO TO A_NO & C_NO

ALTER TABLE DEPOSITOR RENAME COLUMN ACCOUNT_NO TO A_NO;

ALTER TABLE DEPOSITOR RENAME COLUMN CUSTOMER_NO TO C_NO;

DEPOSITOR

A_NO	CUSTOMER_NO
empty	

DEPOSITOR

A_NO	C_NO
empty	

4. add two foreign key constraints 'depositor_fk1' and 'depositor_fk2' which identifies a_no and c_no as a foreign key.

ALTER TABLE DEPOSITOR

ADD CONSTRAINT depositor_fk1

FOREIGN KEY (A_NO) REFERENCES ACCOUNT(ACCOUNT_NO);

ALTER TABLE DEPOSITOR

ADD CONSTRAINT depositor_fk2

FOREIGN KEY (C_NO) REFERENCES CUSTOMER(CUSTOMER_NO);

Task 3 - ADD DATA TO THE TABLES

```
INSERT INTO ACCOUNT(ACCOUNT_NO, BALANCE) VALUES('A-101', 12000);
INSERT INTO ACCOUNT(ACCOUNT_NO, BALANCE) VALUES('A-102', 6000);
INSERT INTO ACCOUNT(ACCOUNT_NO, BALANCE) VALUES('A-103', 2500);
INSERT INTO CUSTOMER(CUSTOMER_NO, CUSTOMER_NAME, CUSTOMER_CITY)
VALUES('C-101', 'Alice', 'Dhaka');
INSERT INTO CUSTOMER(CUSTOMER_NO, CUSTOMER_NAME, CUSTOMER_CITY)
VALUES('C-102', 'Annie', 'Dhaka');
INSERT INTO CUSTOMER(CUSTOMER_NO, CUSTOMER_NAME, CUSTOMER_CITY)
VALUES('C-103', 'Bob', 'Chittagong');
INSERT INTO CUSTOMER(CUSTOMER_NO, CUSTOMER_NAME, CUSTOMER_CITY)
VALUES('C-104', 'Charlie', 'Khulna');
INSERT INTO DEPOSITOR(A_NO, C_NO) VALUES('A-101', 'C-101');
INSERT INTO DEPOSITOR(A_NO, C_NO) VALUES('A-103', 'C-101');
INSERT INTO DEPOSITOR(A_NO, C_NO) VALUES('A-103', 'C-102');
INSERT INTO DEPOSITOR(A_NO, C_NO) VALUES('A-102', 'C-103');
INSERT INTO DEPOSITOR(A_NO, C_NO) VALUES('A-103', 'C-104');
```

ACCOUNT

ACCOUNT_NO	BALANCE
A-101	12000
A-102	6000
A-103	2500

CUSTOMER

CUSTOMER_NO	CUSTOMER_NAME	CUSTOMER_CITY
C-101	Alice	Dhaka
C-102	Annie	Dhaka
C-103	Bob	Chittagong
C-104	Charlie	Khulna

DEPOSITOR

A_NO	C_NO
A-101	C-101
A-103	C-101
A-103	C-102
A-102	C-103
A-103	C-104

Task 4 - QUERIES

1. Display customer name and customer city only.

SELECT CUSTOMER_NAME, CUSTOMER_CITY FROM CUSTOMER;

CUSTOMER_NAME	CUSTOMER_CITY
Alice	Dhaka
Annie	Dhaka
Bob	Chittagong
Charlie	Khulna

2. Display the unique customer city. No repetitions are allowed.

SELECT DISTINCT CUSTOMER_CITY FROM CUSTOMER;

CUSTOMER_CITY
Dhaka
Chittagong
Khulna

3. Find account numbers with balance more than 7000.

SELECT ACCOUNT_NO FROM ACCOUNT WHERE BALANCE > 7000;

ACCOUNT_NO
A-101

4. Find customer number and customer name who live in Khulna.

**SELECT CUSTOMER_NO, CUSTOMER_NAME FROM CUSTOMER WHERE
CUSTOMER_CITY = 'Khulna';**

CUSTOMER_NO	CUSTOMER_NAME
C-104	Charlie

5. Find customer number and customer name who do not live in Dhaka.

```
SELECT CUSTOMER_NO, CUSTOMER_NAME FROM CUSTOMER WHERE NOT  
CUSTOMER_CITY = 'Dhaka';
```

CUSTOMER_NO	CUSTOMER_NAME
C-103	Bob
C-104	Charlie

6. Find customer name and customer city who have accounts with balance more than 7000.

```
SELECT c.CUSTOMER_NAME, c.CUSTOMER_CITY  
FROM CUSTOMER c  
JOIN DEPOSITOR d ON c.CUSTOMER_NO = d.C_NO  
JOIN ACCOUNT a ON d.A_NO = a.ACCOUNT_NO WHERE a.BALANCE > 7000;
```

CUSTOMER_NAME	CUSTOMER_CITY
Alice	Dhaka

7. Find customer name and customer city who have accounts with balance more than 7000 and do not live in Khulna.

```
SELECT c.CUSTOMER_NAME, c.CUSTOMER_CITY  
FROM CUSTOMER c  
JOIN DEPOSITOR d ON c.CUSTOMER_NO = d.C_NO  
JOIN ACCOUNT a ON d.A_NO = a.ACCOUNT_NO  
WHERE a.BALANCE > 7000 AND NOT c.CUSTOMER_CITY = 'Khulna';
```

CUSTOMER_NAME	CUSTOMER_CITY
Alice	Dhaka

8. Find account number and balance for those accounts which belong to a customer with id 'C-102'.

```
SELECT a.ACCOUNT_NO, a.BALANCE FROM ACCOUNT a JOIN DEPOSITOR d ON  
a.ACCOUNT_NO = d.A_NO WHERE d.C_NO = 'C-102';
```

ACCOUNT_NO	BALANCE
A-103	2500

9. Find all account number and balance for those accounts which belong to customers of Dhaka and Khulna city.

```
SELECT a.ACCOUNT_NO, a.BALANCE
FROM ACCOUNT a
JOIN DEPOSITOR d ON a.ACCOUNT_NO = d.A_NO
JOIN CUSTOMER c ON d.C_NO = c.CUSTOMER_NO
WHERE c.CUSTOMER_CITY IN ('Dhaka', 'Khulna');
```

ACCOUNT_NO	BALANCE
A-101	12000
A-103	2500
A-103	2500
A-103	2500

10. Find the customer who have no accounts.

```
SELECT c.CUSTOMER_NO, c.CUSTOMER_NAME
FROM CUSTOMER c
LEFT JOIN DEPOSITOR d ON c.CUSTOMER_NO = d.C_NO
WHERE d.C_NO IS NULL;
```

SQL query successfully executed. However, the result set is empty.

IF I ADD SOME DATA TO SHOW THIS

```
INSERT INTO CUSTOMER (CUSTOMER_NO, CUSTOMER_NAME, CUSTOMER_CITY)
VALUES ('C-105', 'Diana', 'Sylhet');
```

```
SELECT c.CUSTOMER_NO, c.CUSTOMER_NAME
FROM CUSTOMER c
LEFT JOIN DEPOSITOR d ON c.CUSTOMER_NO = d.C_NO
WHERE d.C_NO IS NULL;
```

THEN

CUSTOMER_NO	CUSTOMER_NAME
C-105	Diana