SQL CT2 MINIPROJECT

Mini Project 2

Team Members:

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In [1]:

```
pip install pymysql
```

```
Requirement already satisfied: pymysql in c:\users\admin\anaconda3\lib
\site-packages (1.0.3)
Note: you may need to restart the kernel to use updated packages.
```

In [2]:

```
# Import the necessary libraries
import pymysql
from tabulate import tabulate
import pandas as pd
```

In [3]:

```
# Establish a connection to the database
connection = pymysql.connect(host='localhost',
                             user='root',
                             password='root',
                             database='bookstore')

# Create a cursor object to interact with the database
cursor = connection.cursor()
```

Identify the purchase details of books, that are purchased exactly on different dates by the same customer(s). Write a query to display customer's id and number of such purchases to be displayed as BOOKS for the identified purchase details.

In [4]:

```
query1 = '''
SELECT p.Custid, COUNT(DISTINCT p.Purchasedate) AS BOOKS
FROM purchase p
GROUP BY p.Custid
HAVING COUNT(DISTINCT p.Purchasedate) > 1
'''
cursor.execute(query1)

# Fetch all the rows returned by the first query
res1 = cursor.fetchall()

# Print the results of the first query
print(tabulate(res1, headers=['Customer ID', 'Books']))
```

```
Customer ID      Books
-------------  -------
C101                 2
```

From the above result, Customer_ID = C101 customer only has purchased books on different dates. 2 books are purchased by the same customer on different dates.

Identify the purchase details of books, where the books of the same category are purchased by different customers on different dates. Write a query to display customer's id and title of the book for the identified purchase details.

In [5]:

```
query2 = '''
SELECT DISTINCT p1.custid, b1.bookname, b1.Category
FROM purchase p1
INNER JOIN books b1 ON p1.bookid = b1.bookid
WHERE EXISTS (
    SELECT 1
    FROM purchase p2
    INNER JOIN books b2 ON p2.bookid = b2.bookid
    WHERE p1.bookid <> p2.bookid
    AND b1.category = b2.category
    AND p1.custid <> p2.custid
    AND p1.purchasedate <> p2.purchasedate
)
ORDER BY p1.custid;
'''
cursor.execute(query2)

# Fetch all the rows returned by the second query
res2 = cursor.fetchall()

# Print the results of the second query
print(tabulate(res2, headers=['Customer ID', 'Book Name','Category']))
```

```
Customer ID    Book Name           Category
-------------  ------------------  ----------
C101           Science Revolution  Journal
C103           Tech World          Journal
```

```
Customer ID = C101 and C103 purchased the books from same category 'Journal' on
different dates.
```

Identify the purchase details of books, where the book is purchased on the same date, exactly on the date Anne has purchased the book. Write a query to display customer's name and title of the book for the identified purchase details. Do NOT display details of Anne in the query result.

In [6]:

```
query3 = '''
SELECT c.custname, b.Bookname
FROM purchase p
JOIN customer c ON p.custid = c.custid
JOIN books b ON p.bookid = b.bookid
WHERE p.purchasedate IN (
    SELECT purchasedate
    FROM purchase
    WHERE custid = 'C102'
)
AND c.custid != 'C102';
'''
cursor.execute(query3)

# Fetch all the rows returned by the second query
res3 = cursor.fetchall()

# Print the results of the second query
print(tabulate(res3, headers=['Customer Name', 'Book Name']))
```

```
Customer Name    Book Name
---------------  -----------
Maria            Bizz world
```

```
Anne and Maria purchased a book on same date '2019-11-25'.
```

In [7]:

```
# Close the cursor and the connection
cursor.close()
connection.close()
```