AIE303 Labsheet 6

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Create the the given bank database, insert tuples(3-4rows) and formulate the given queries in SQL:

Customer (Ccode, Cname, cadd)
Account (Acno, Ccode, Branch, Balance, actype)
Ac-actype(Acttype, Interest)
Transaction (Acno, tno, type, tdate, Issuedby, amt)
Loan (Lno, Ccode, branch, debit)
Loanpayment (Lno, paymentno, Pdate, issuedby, amt)

```sql
CREATE TABLE Customer ( Ccode VARCHAR(10) PRIMARY KEY, Cname VARCHAR(50),
Cadd VARCHAR(100) );

CREATE TABLE Account ( Acno VARCHAR(10) PRIMARY KEY, Ccode VARCHAR(10),
Branch VARCHAR(50), Balance DECIMAL(10, 2), Actype VARCHAR(20), FOREIGN KEY
(Ccode) REFERENCES Customer(Ccode) );

CREATE TABLE Ac_actype ( Actype VARCHAR(20) PRIMARY KEY, Interest DECIMAL(5,
2) );

CREATE TABLE Transaction ( Acno VARCHAR(10), Tno VARCHAR(10) PRIMARY KEY,
Type VARCHAR(10), Tdate DATE, Issuedby VARCHAR(50), Amt DECIMAL(10, 2),
FOREIGN KEY (Acno) REFERENCES Account(Acno) );

CREATE TABLE Loan ( Lno VARCHAR(10) PRIMARY KEY, Ccode VARCHAR(10), Branch
VARCHAR(50), Debit DECIMAL(10, 2), FOREIGN KEY (Ccode) REFERENCES
Customer(Ccode) );

CREATE TABLE Loanpayment ( Lno VARCHAR(10), Paymentno VARCHAR(10) PRIMARY
KEY, Pdate DATE, Issuedby VARCHAR(50), Amt DECIMAL(10, 2), FOREIGN KEY (Lno)
REFERENCES Loan(Lno));


INSERT INTO Customer (Ccode, Cname, Cadd)
VALUES
('C001', 'John Doe', '123 Elm St'),
```

```sql
    ('C002', 'Jane Smith', '456 Oak St'),
    ('C003', 'Mary Johnson', '789 Pine St');

INSERT INTO Account (Acno, Ccode, Branch, Balance, Actype)
VALUES
    ('A001', 'C001', 'New York', 5000, 'Savings'),
    ('A002', 'C002', 'Chicago', 15000, 'Checking'),
    ('A003', 'C003', 'New York', 7000, 'Savings');

INSERT INTO Ac_actype (Actype, Interest)
VALUES
    ('Savings', 2.5),
    ('Checking', 0.0);

INSERT INTO Loan (Lno, Ccode, Branch, Debit)
VALUES
    ('L001', 'C001', 'Kollam', 2000),
    ('L002', 'C003', 'Chicago', 5000);

INSERT INTO Transaction (Acno, Tno, Type, Tdate, Issuedby, Amt)
VALUES
    ('A001', 'T001', 'Deposit', '1995-09-10', 'John Doe', 1000),
    ('A002', 'T002', 'Withdraw', '1995-09-10', 'Jane Smith', 2000),
    ('A003', 'T003', 'Deposit', '1995-09-09', 'Mary Johnson', 500);

INSERT INTO Loanpayment (Lno, Paymentno, Pdate, Issuedby, Amt)
VALUES
    ('L001', 'P001', '2024-09-01', 'John Doe', 500),
    ('L002', 'P002', '2024-09-02', 'Mary Johnson', 1000);
```

Use Subqueries
1. Find the names of the customers of the bank who have taken loans.
2. Find the codes and the balances of the customers who have accounts the balance of which is greater than the average balance of all the accounts in the bank.
3. Find the name of the customer who owns the account with code 00001.
4. Find the names of the customers who own accounts which pay no interest .
5. Retrieve the names of the customers, whose accounts had a transaction on the 10th of September 1995.
6. Find the names of the customers who have accounts whose balance is higher than the average account balance in the bank.
7. Find the name of customers who have taken Loan from ' Kollam' branch
8. Find the name of customer with a balance amount greater than any customer having same account type.

```sql
SELECT Cname FROM Customer WHERE Ccode in (SELECT Ccode in Loan);
```

```
   cname
-------------
 John Doe
 Mary Johnson
(2 rows)
```

```sql
SELECT Ccode, Balance FROM Account WHERE balance > (SELECT AVG(balance) FROM Account);
```

```
 ccode | balance
-------+----------
 C002  | 15000.00
(1 row)
```

```sql
SELECT Cname FROM Customer WHERE Ccode = (SELECT Ccode FROM Account WHERE Acno = '0001');
```

```
 cname
-------
(0 rows)
```

```sql
SELECT Cname
FROM Customer
WHERE Ccode IN (SELECT Ccode FROM Account WHERE Actype IN
                (SELECT Actype FROM Ac_actype WHERE Interest = 0.0));
```

```
   cname
-------------
 Jane Smith
(1 row)
```

```sql
SELECT Cname FROM Customer WHERE Ccode IN (SELECT Ccode FROM Account WHERE
Acno IN (SELECT Acno FROM Transaction WHERE tdate='1995-09-10'));
```

```
   cname
-----------
 Jane Smith
 John Doe
(2 rows)
```

```sql
SELECT Cname
FROM Customer
```

```
WHERE Ccode IN (SELECT Ccode FROM Account
                WHERE Balance > (SELECT AVG(Balance) FROM Account));
```

```
  cname
----------
Jane Smith
(1 row)
```

```
SELECT Cname
FROM Customer
WHERE Ccode IN (SELECT Ccode FROM Loan WHERE Branch = 'Kollam');
```

```
 cname
----------
John Doe
(1 row)
```

```
SELECT Cname
FROM Customer
WHERE Ccode IN (SELECT Ccode FROM Account A1
                WHERE Balance > ALL (SELECT Balance FROM Account A2
                                     WHERE A2.Actype = A1.Actype AND
A2.Ccode <> A1.Ccode));
```

```
   cname
-------------
Jane Smith
Mary Johnson
(2 rows)
```