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Roll No.: SYCOC303 Course Name: Project Based Learning - II

Div: C Batch: C4 Course Code: BCE4409

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Problem Statement:

Create below tables with appropriate constraints like primary key, foreign key, check constrains, not null etc.

Account(Acc_no, branch_name,balance)

branch(branch_name,branch_city,assets)

customer(cust_name,cust_street,cust_city)

Depositor(cust_name,acc_no)

Loan(loan_no,branch_name,amount)

Borrower(cust_name,loan_no)

Solve following query:

Q1. Find the names of all branches in loan relation.

Q2. Find all loan numbers for loans made at Akurdi Branch with loan amount > 12000.

Q3. Find all customers who have a loan from bank. Find their names,loan_no and loan

amount.

Q4. List all customers in alphabetical order who have loan from Akurdi branch.

Q5. Find all customers who have an account or loan or both at bank.

Q6. Find all customers who have both account and loan at bank.

Q7. Find all customer who have account but no loan at the bank.

Q8. Find average account balance at Akurdi branch.

Q9. Find the average account balance at each branch

Q10. Find no. of depositors at each branch.

Q11. Find the branches where average account balance > 12000.

Q12. Find number of tuples in customer relation.

Q13. Calculate total loan amount given by bank.

Q14. Delete all loans with loan amount between 1300 and 1500.

Q15. Delete all tuples at every branch located in Nigdi.

Q.16. Create synonym for customer table as cust.

Q.17. Create sequence roll_seq and use in student table for roll_no column.

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Outputs:

All created Tables:

```
SQL> select *from Branch;

BRANCH_NAME          BRANCH_CITY          ASSETS
-------------------- -------------------- --------------------
Dhankwadi            Pune                 Cash
Katraj               Pune                 Gold
Akurdi               Pune                 Cash
Vishrambaug          Sangli               Cash
Peth                 Kolhapur             Gold
```

```
SQL> select *from Account;

    ACC_NO BRANCH_NAME             BALANCE
---------- -------------------- ----------
       101 Katraj                    12000
       102 Akurdi                    10000
       103 Katraj                    12300
       104 Dhankwadi                  1500
       105 Vishrambaug                1200

SQL>
```

```
SQL> select *from Customer;

CUST_NAME            CUST_STREET          CUST_CITY
-------------------- -------------------- --------------------
Vinayak              ABRoad               Akurdi
Pratik               PQRoad               Pune
Vishwesh             RDRoad               Pimpri
Sakshi               STRoad               Pune
Janhavi              VWRoad               Pimpri
Pranav               XYRoad               Sangli

6 rows selected.
```

```
SQL> select *from Depositor;

     DP_ID CUST_NAME                ACC_NO
---------- -------------------- ----------
         1 Vinayak                     101
         2 Sakshi                      103
         3 Janhavi                     104
```

```
SQL> select *from Loan;

   LOAN_NO BRANCH_NAME             AMOUNT
---------- -------------------- ----------
      1001 Katraj                   13000
      1002 Akurdi                   10000
      1003 Vishrambaug               9000
      1004 Katraj                   20000
```

```
SQL> select *from Borrower;

      B_ID CUST_NAME               LOAN_NO
---------- -------------------- ----------
         1 Vinayak                    1002
         2 Sakshi                     1001
         3 Pranav                     1003
         4 Vishwesh                   1004

SQL>
```

Q01: Find the names of all branches in loan relation.

```
SQL> select branch_name from Loan;

BRANCH_NAME
--------------------
Katraj
Akurdi
Vishrambaug
Katraj
SQL>
```

Q02: Find all loan numbers for loans made at Katraj Branch with loan amount > 12000.

```
SQL> select loan_no from Loan where branch_name='Katraj' and
amount>12000;

   LOAN_NO
----------
      1001
      1004
SQL>
```

Q03: Find all customers who have a loan from bank. Find their names,loan_no and loan amount.

```
SQL> select Borrower.cust_name,Borrower.loan_no,Loan.amount from
Borrower,Loan where Borrower.loan_no=Loan.loan_no;
```

```
CUST_NAME                 LOAN_NO      AMOUNT
-------------------- ---------- ----------
Sakshi                      1001       13000
Vinayak                     1002       10000
Pranav                      1003        9000
Vishwesh                    1004       20000
SQL>
```

Q04: List all customers in alphabetical order who have loan from Katraj branch.

```
SQL> select distinct cust_name from Borrower,Loan where
Borrower.loan_no = Loan.loan_no and branch_name = 'Katraj' order
by cust_name;
CUST_NAME
--------------------
Sakshi
Vishwesh
```

Q05: Find all customers who have an account or loan or both at bank.

```
SQL> select *from Depositor
  2  UNION
  3  select *from Borrower;

     DP_ID CUST_NAME                 ACC_NO
---------- -------------------- ----------
         1 Vinayak                     101
         1 Vinayak                    1002
         2 Sakshi                      103
         2 Sakshi                     1001
         3 Janhavi                     104
```

```
         3 Pranav                      1003
         4 Vishwesh                    1004

7 rows selected.

SQL> select *from Depositor
  2  UNION ALL
  3  select *from Borrower;

     DP_ID CUST_NAME                ACC_NO
---------- -------------------- ----------
         1 Vinayak                       101
         2 Sakshi                        103
         3 Janhavi                       104
         1 Vinayak                     1002
         2 Sakshi                      1001
         3 Pranav                      1003
         4 Vishwesh                    1004

7 rows selected.
```

Q06: Find all customers who have both account and loan at bank.

```
SQL> select cust_name from Depositor
  2  INTERSECT
  3  select cust_name from Borrower;

CUST_NAME
--------------------
Sakshi
Vinayak
```

Q07: Find all customer who have account but no loan at the bank.

```
SQL> select *from Depositor where cust_name NOT IN (select
cust_name from Borrower);

     DP_ID CUST_NAME                 ACC_NO
---------- -------------------- ----------
         3 Janhavi                       104
```

Q08: Find average account balance at Akurdi branch.

```
SQL> select AVG(balance) from Account where
branch_name='Katraj';

AVG(BALANCE)
------------
       12150
```

Q09: Find the average account balance at each branch

```
SQL> select AVG(balance) from Account GROUP BY branch_name;

AVG(BALANCE)
------------
        1200
       12150
       10000
        1500
```

Q10: Find no. of depositors at each branch.

```
SQL> select COUNT(cust_name),branch_name from Depositor,Account
where Depositor.acc_no = Account.acc_no GROUP BY
Account.branch_name;


COUNT(CUST_NAME) BRANCH_NAME
---------------- --------------------
               2 Katraj
               1 Dhankwadi
```

Q11: Find the branches where average account balance > 12000.

```
SQL> select branch_name, AVG(balance) from Account GROUP BY
branch_name HAVING AVG(balance) > 12000;


BRANCH_NAME          AVG(BALANCE)
-------------------- ------------
Katraj                      12150
```

Q12: Find number of tuples in customer relation.

```
SQL> select COUNT(cust_name) from Customer;


COUNT(CUST_NAME)
----------------
               6
```

Q13: Calculate total loan amount given by bank

```
SQL> select SUM(amount) from Loan;
```

```
SUM(AMOUNT)
-----------
      52000
```

Q14: Delete all loans with loan amount between 13000 and 15000

```
SQL> delete from Loan where amount between 1300 and 1500;
```

Q15: Delete all tuples at every branch located in Nigdi.

```
SQL> delete from Account where branch_name IN (select
branch_name from branch where branch_city = 'Nigdi');
```

Q16: Create synonym for customer table as cust.

```
SQL> create synonym cust for customer;
```

Q17: Create sequence roll_seq and use in student table for roll_no column.

```
SQL> create table Student
  2  (
  3     roll_no int primary key,
  4     name varchar2(20)
  5  );

Table created.

SQL> create sequence roll_seq
  2  start with 1
  3  increment by 1
```

```
  4  minvalue 0
  5  maxvalue 100
  6  nocycle;

Sequence created.

SQL> insert into Student values(roll_seq.nextval,'Vinayak');

1 row created.

SQL> insert into Student values(roll_seq.nextval,'Sakshi');

1 row created.

SQL> insert into Student values(roll_seq.nextval,'Janhavi');

1 row created.

SQL> select *from Student;

   ROLL_NO NAME
---------- --------------------
         1 Vinayak
         2 Sakshi
         3 Janhavi
```

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