
Example 3a : Customer :

Acno Char(6)	cname (Customer Name) Varchar2(20)	cstreet Varchar2(20)	ccity Varchar2(20)	Balamt Number(9,2)	Loanno Char(4)	Loanamt Number(9,2)	Branchcode Number(2)
A-101	Adams	Spring	Pittsfield	9000	L-1	5000	10
A-201	Brooks	Senator	Brooklyn	8000			20
A-301	Curry	North	Rye	4500	L-2	2000	10
A-401	Glenn	Sand Hill	Woodside	8900			20
A-501	Jones	Main	Harrison	3784			10
A-601	Lindsay	Park	Pittsfield	7893	L-3	5700	30
A-701	Smith	North	Rye	4532			10
A-801	Turner	Putnam	Stanford	4981			30

Branch :

Branchcode Number(2)	BranchName Varchar2(20)
10	Brighton
20	Downtown
30	Mianus
40	North Town

Write SQL statement with Output for the following:

1. **Create Customer and Branch table with above mentioned schema.**

```
CREATE TABLE Branch (
   Branchcode INT(2) PRIMARY KEY,
   BranchName VARCHAR(20)
);

CREATE TABLE Customer (
   Acno CHAR(6) PRIMARY KEY,
   cname VARCHAR(20),
   cstreet VARCHAR(20),
   ccity VARCHAR(20),
   balamt DECIMAL(9,2),
   Loanno CHAR(4),
   Loanamt DECIMAL(9,2),
   Branchcode INT(2),
   FOREIGN KEY (Branchcode) REFERENCES Branch(Branchcode)
);
```

2. **Insert all tuples in both the tables.**

```
INSERT INTO Branch VALUES
(10, 'Brighton'),
(20, 'Downtown'),
(30, 'Mainus'),
(40, 'North Town');
```

```
INSERT INTO Customer VALUES
('A-101', 'Adams', 'Spring', 'Pittsfield', 9000, 'L-1', 5000, 10),
('A-201', 'Brooks', 'Senator', 'Brooklyn', 8000, NULL, NULL, 20),
('A-301', 'Curry', 'North', 'Rye', 4500, 'L-2', 2000, 10),
('A-401', 'Glenn', 'Sand Hill', 'Woodside', 8900, NULL, NULL, 20),
('A-501', 'Jones', 'Main', 'Harrison', 3784, NULL, NULL, 10),
('A-601', 'Lindsay', 'Park', 'Pittsfield', 7893, 'L-3', 5700, 30),
('A-701', 'Smith', 'North', 'Rye', 4532, NULL, NULL, 10),
('A-801', 'Turner', 'Putnam', 'Stanford', 4981, NULL, NULL, 30);
```

3. **Add new attribute Assets in customer table with number (4).**
   ```
   ALTER TABLE Customer ADD Assets DECIMAL(9,2);
   ```

4. **Modify the Assets attribute value by 25% of balamt of all customers.**
   ```
   UPDATE Customer SET Assets = 0.25 * balamt;
   ```

5. **List the Customers names, who have not taken loan.**
   ```
   SELECT cname FROM Customer WHERE Loanno IS NULL;
   ```

6. **Display names of customer in lower and upper case.**
   ```
   SELECT LOWER(cname) AS LowerName, UPPER(cname) AS UpperName FROM Customer;
   ```

7. **List the acno, Customer name, balamt, and Interest of all customers. (interest is 7% of balamt)**
   ```
   SELECT Acno, cname, balamt, balamt * 0.07 AS Interest FROM Customer;
   ```

8. **List the Different City present in customer table.**
   ```
   SELECT DISTINCT ccity FROM Customer;
   ```

9. **List the Customer details not belonging to the Branch code 10, 20.**
   ```
   SELECT * FROM Customer WHERE Branchcode NOT IN (10, 20);
   ```

10. **List the Customer Name and balamt, whose balamt is in the range of 2000 and 5000.**
    ```
    SELECT cname, balamt FROM Customer WHERE balamt BETWEEN 2000 AND 5000;
    ```

11. **List the total balamt, highest balamt and average balamt of customer branch code wise for the branch code 30 and display only those rows having average balamt grater than 1500 and arrange the result in Descending order of the total balamt.**
    ```
    SELECT Branchcode,
        SUM(balamt) AS TotalBal,
        MAX(balamt) AS HighestBal,
        AVG(balamt) AS AverageBal
    FROM Customer
    WHERE Branchcode = 30
    GROUP BY Branchcode
    HAVING AVG(balamt) > 1500
    ORDER BY TotalBal DESC;
    ```

12. **Display the list of Customer in each Branch. Display the Branch information even if no customer is belonging to that Branch.**
    ```
    SELECT B.Branchcode, B.Branchname, C.cname
    ```

```
    -> FROM Branch B
    -> LEFT JOIN Customer C ON B.Branchcode = C.Branchcode;
```

13. Display the names of Customer whose stays at same street and city as that of 'Smith'.

```
SELECT cname FROM CUstomer
   -> Where (cstreet, ccity) = (SELECT cstreet, CCity FROM CUSTOMER WHERE cname =
'smith');
```

14. Write PL SQL program to find factorial of 7 no.

```
DECLARE
  n NUMBER := 7;
  fact NUMBER := 1;
BEGIN
  FOR i IN 1..n LOOP
    fact := fact * i;
  END LOOP;
  DBMS_OUTPUT.PUT_LINE('Factorial of ' || n || ' is ' || fact);
END;
```

15. Display the different City present in Branch code 10 and 30.

```
SELECT DISTINCT ccity
FROM Customer
WHERE Branchcode IN (10, 30);
```