

Riview 2&3-

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Boranch - (Boranch_name, boranch - city, assets)
   customer - ( customer_id , customer_name , customer_streat,
             customer_city,)
   Employee - (employee _ id, dependent _ name, employment_
          length, employee_name, telephone_number, start_date,
           brianch _ name)
           ( loan_ number, amount, bronch - name)
 Account - (account - number, balance,)
payment - (Payment_number, loan_number, payment_date,
          payment_ amount)
Account Branch - ( branch _name, a would_number)
Bonnower - ( wstomer_id, loan_number)
cust Banker - ( wstomer - id , employee _ id , type)
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Table creation with insertion of values-

create table branch(branch_name varchar2(30),branch_city varchar2(10),assets varchar2(30),constraint pk1_value primary key(branch_name));

create table customer(customer_id varchar2(10),customer_name varchar2(10),customer_street varchar2(10),customer_city varchar2(10),constraint pk2_value primary key(customer_id));

create table employee(employee_id varchar2(10),dependent_name varchar2(10),employment_length number(5),employee_name varchar2(10) NOT NULL ,telephone_number number(10) unique,start_date date,branch_name varchar2(30),constraint pk3_value primary key(employee_id),constraint fk1_value foreign key(branch_name) references branch(branch_name));

create table loan(loan_number number(10),amount number(10),branch_name varchar2(30),constraint pk4_value primary key(loan_number),constraint fk2_value foreign key(branch_name) references branch(branch_name));

create table account(account_number number(10),balance number(10),customer_id varchar2(10),constraint pk5_value primary key(account_number),constraint fk4_value foreign key(customer_id) references customer(customer_id));

create table payment(payment_number number(10),loan_number number(10),payment_date date,payment_amount number(10),constraint fk6_value foreign key(loan_number) references loan(loan_number),constraint pk7_value primary key(payment_number,loan_number));

create table account_branch(branch_name varchar2(30),account_number number(10),constraint fk12_value foreign key(branch_name) references branch(branch_name), constraint fk13_value foreign key(account_number) references account(account_number),constraint pk8_value primary key(branch_name,account_number));

create table borrower(customer_id varchar2(10),loan_number number(10),constraint fk14_value foreign key(customer_id) references customer(customer_id),constraint fk15_value foreign key(loan_number)

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references loan(loan number), constraint pk15 value primary
key(customer id,loan number));
create table cust banker(customer id varchar2(10),employee id
varchar2(10),type varchar2(30),constraint fk18 value foreign key(customer id)
references customer(customer id), constraint fk19 value foreign
key(employee id) references employee(employee id),constraint pk20 value
primary key(customer id,employee id));
Alter table branch add constraint check1 value check (branch city in
('Mumbai','Chennai','Vellore'));
insert into branch values('Indian Bank', 'Mumbai', 'Machine');
insert into branch values('Bank of Baroda','Chennai','Furniture');
insert into branch values('State Bank of India','Vellore','Furniture');
insert into branch values('Punjab National Bank','Vellore','Machine');
insert into branch values('Allhabad Bank','Mumbai','Machine');
insert into branch values('J&K Bank','Chennai','Furniture');
insert into branch values('Axis Bank','Mumbai','Machine');
insert into customer values('C1','Ram','MK road','Mumbai');
insert into customer values('C2','Adi','GT Road','Mumbai');
insert into customer values('C3','Karan','Gumti','Chennai');
insert into customer values('C4','Om','Parade','Chennai');
insert into customer values('C5','Kartik','Devki','Vellore');
insert into customer values('C6','Shiv','Bithoor','Mumbai');
insert into loan values(1,150000, 'Indian Bank');
insert into loan values(2,160890, 'State Bank of India');
insert into loan values(3,156000,'Allhabad Bank');
insert into loan values(4,70000, 'Punjab National Bank');
insert into loan values(5,15000,'State Bank of India');
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insert into loan values(6,200000,'Axis Bank');
insert into account values(101,15000,'C1');
insert into account values(102,180000,'C2');
insert into account values(103,158000,'C3');
insert into account values(104,30000,'C4');
insert into account values(105,280000,'C5');
insert into account values(106,200000,'C1');
insert into payment values(1001,1,'17-jan-2022',30000);
insert into payment values(1002,2,'25-mar-2022',5000);
insert into payment values(1003,4,'08-may-2022',75000);
insert into payment values(1004,2,'30-jun-2022',23000);
insert into payment values(1005,3,'05-jul-2022',100000);
insert into payment values(1006,4,'19-oct-2022',9000);
insert into payment values(1007,6,'31-Dec-2022',37000);
insert into account branch values ('Allhabad Bank', 101);
insert into account branch values('Indian Bank',102);
insert into account branch values('Punjab National Bank',103);
insert into account branch values('J&K Bank',104);
insert into account branch values('Allhabad Bank',105);
insert into account_branch values('Indian Bank',106);
insert into borrower values('C1',1);
insert into borrower values('C2',2);
insert into borrower values('C3',3);
insert into borrower values('C4',4);
insert into borrower values('C5',4);
insert into borrower values('C1',2);
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insert into borrower values('C2',6);
insert into employee values('E1','Yash',5,'Gautam',9874563210,'12-jan-
2014', 'Allhabad Bank');
insert into employee values('E2','Atharav',7,'Shreyansh',6587563210,'05-Mar-
2013', 'Punjab National Bank');
insert into employee values('E3','Sahil',9,'Shreyash',7854563210,'10-Jul-
2011','Indian Bank');
insert into employee values('E4','Suyash',2,'Sanjay',6984563210,'16-Feb-
2018', 'Allhabad Bank');
insert into employee values('E5', 'Samar', 3, 'Vijay', 8574563210, '31-May-
2017','Axis Bank');
insert into employee values('E6','Mohan',15,'Ravi',7595563210,'15-Jun-
2008', 'Allhabad Bank');
insert into Cust banker values('C1','E1','Bank teller');
insert into Cust_banker values('C2','E4','Loan processor');
insert into Cust banker values('C3','E3','Credit Analyst');
insert into Cust banker values('C4','E2','Banker');
insert into Cust banker values('C5','E6','Financial Advisor');
insert into Cust banker values('C6','E5','Financial Analyst');
```

Queries with outputs-

Select * from branch;

BRANCH_NAME	BRANCH_CITY	ASSETS
Indian Bank	Mumbai	Machine
Bank of Baroda	Chennai	Furniture
State Bank of India	Vellore	Furniture
Punjab National Bank	Vellore	Machine
Allhabad Bank	Mumbai	Machine
J&K Bank	Chennai	Furniture
Axis Bank	Mumbai	Machine
Download CSV		

select * from customer;

CUSTOMER_ID	CUSTOMER_NAME	CUSTOMER_STREET	CUSTOMER_CITY
C1	Ram	MK road	Mumbai
C2	Adi	GT Road	Mumbai
С3	Karan	Gumti	Chennai
C4	Om	Parade	Chennai
C5	Kartik	Devki	Vellore
С6	Shiv	Bithoor	Mumbai
Download CSV			

/*update date*/
update employee set start_date='30-jan-2014' where start_date='12-jan-2014';

1 row(s) updated.

/*update type*/
update cust_banker set type='Asset Manager' where type='Banker';

1 row(s) updated.

/*Delete where type=Financial analyst*/
Delete from cust_banker where type='Financial Analyst';

1 row(s) deleted.

/*Fetching details*/

Select customer_id,employee_id,type from cust_banker;

CUSTOMER_ID	EMPLOYEE_ID	ТҮРЕ
C1	E1	Bank teller
C2	E4	Loan processor
С3	E3	Credit Analyst
C4	E2	Asset Manager
C5	E6	Financial Advisor
Download CSV		

select employee_id,branch_name,start_date from employee;

BRANCH_NAME	START_DATE
Allhabad Bank	30-JAN-14
Punjab National Bank	05-MAR-13
Indian Bank	10-JUL-11
Allhabad Bank	16-FEB-18
Axis Bank	31-MAY-17
Allhabad Bank	15-JUN-08
	Allhabad Bank Punjab National Bank Indian Bank Allhabad Bank Axis Bank

/*fetch all the customer id from customer and borrower*/

SELECT customer_id FROM Customer UNION SELECT customer_id FROM Borrower;



/* Find the account numbers that exist both in the "account" table and the "account branch" table. */

SELECT account_number FROM account INTERSECT SELECT account_number FROM account_branch;



/* Get the customer IDs from the "Customer" table that do not have any corresponding entries in the "Borrower" table.*/

SELECT customer_id FROM Customer minus SELECT customer_id FROM Borrower;



/* Get the account numbers from the "account" table that do not have any corresponding entries in the "account branch" table.*/

SELECT account_number FROM account minus SELECT account_number FROM account_branch;



/* Get the branch name which are there in loan table and in account_branch table*/

select branch_name from loan intersect select branch_name from account_branch;



/* Retrieve the customer name, account number, and branch name for all customers who have an account and are associated with a branch.*/

SELECT c.customer_name, a.account_number, b.branch_name

FROM Customer c

JOIN account a ON c.customer_id = a.customer_id

JOIN account_branch b ON a.account_number = b.account_number;

CUSTOMER_NAME	ACCOUNT_NUMBER	BRANCH_NAME
Ram	101	Allhabad Bank
Kartik	105	Allhabad Bank
Adi	102	Indian Bank
Ram	106	Indian Bank
Om	104	J&K Bank
Karan	103	Punjab National Bank

/* Retrieve the customer name, account number, and branch name for all customers, including those who do not have an account. */

SELECT c.customer_name, a.account_number, b.branch_name FROM Customer c

FULL OUTER JOIN account a ON c.customer_id = a.customer_id

FULL OUTER JOIN account_branch b ON a.account_number = b.account_number;

CUSTOMER_NAME	ACCOUNT_NUMBER	BRANCH_NAME
Ram	101	Allhabad Bank
Adi	102	Indian Bank
Karan	103	Punjab National Bank
От	104	J&K Bank
Kartik	105	Allhabad Bank
Ram	106	Indian Bank
Shiv		

/* Retrieve the account number, customer name, and branch name for all accounts, including those that are not associated with a customer*/

 ${\tt SELECT~a.account_number,~c.customer_name,~b.branch_name}$

FROM account a

RIGHT OUTER JOIN Customer c ON c.customer_id = a.customer_id

RIGHT OUTER JOIN account_branch b ON a.account_number = b.account_number;

CUSTOMER_NAME	BRANCH_NAME
Ram	Allhabad Bank
Adi	Indian Bank
Karan	Punjab National Bank
Om	J&K Bank
Kartik	Allhabad Bank
Ram	Indian Bank
	Ram Adi Karan Om Kartik

/* Retrieve the customer ID, customer name, and loan number for customers who have taken out a loan.*/

SELECT c.customer_id, c.customer_name, l.loan_number

FROM Customer c

JOIN Borrower b on c.customer_id=b.customer_id

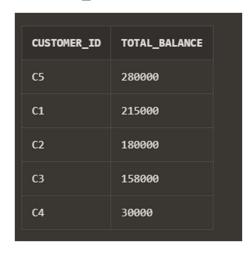
JOIN loan I on I.loan_number=b.loan_number;

CUSTOMER_ID	CUSTOMER_NAME	LOAN_NUMBER
C1	Ram	1
C1	Ram	2
C2	Adi	2
C2	Adi	6
С3	Karan	3
C4	От	4
C5	Kartik	4

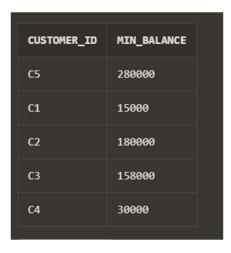
/* Retrieve the count of loans for each branch.*/
select branch_name,count(*) from loan group by branch_name order by
count(*) asc;

BRANCH_NAME	COUNT(*)
Indian Bank	1
Allhabad Bank	1
Axis Bank	1
Punjab National Bank	1
State Bank of India	2

/* Retrieve the total balance of accounts for each customer.*/
select customer_id,sum(balance) as TOTAL_BALANCE from account group by customer_id;



/* Retrieve the minimum balance of accounts for each customer.*/
SELECT customer_id, MIN(balance) AS min_balance FROM account GROUP BY customer_id;



/* Retrieve the customers who have taken more than one loan.*/

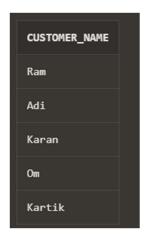
SELECT customer_id,count(loan_number) as loan_count from borrower group by customer_id having count(loan_number)>1;



/*Retrieve the amount taken from each branch.*/
select branch_name,sum(amount) from loan group by branch_name;

BRANCH_NAME	SUM(AMOUNT)
Indian Bank	150000
Allhabad Bank	156000
Punjab National Bank	70000
State Bank of India	175890
Axis Bank	200000

/* Retrieve the customer names who have taken out a loan.*/
select customer_name from customer where customer_id in(select customer_id from borrower);



/* Retrieve the branch_city which have an account*/
select distinct branch_city from branch where branch_name in(select
branch_name from account_branch);



/* Retrieve the branch names where at least one loan exists.*/
select branch_name from branch where branch_name in(select branch_name
from loan);



/* Retrieve the balance which is greater than average of balance*/
select balance from account where balance >(select avg(balance) from account);



/*Retrieve the customer names who have not taken out any loans.*/
select customer_name from Customer c where not exists (select * from Borrower b WHERE c.customer_id = b.customer_id);



/*Retrieve the customer names who have taken out a loan.*/

select customer_name from Customer c where exists (select * from Borrower b WHERE b.customer_id = c.customer_id);



/* Retrieve the branch names where at least one loan exists.*/

select branch_name from account_branch b where exists (select * from loan I
WHERE I.branch_name = b.branch_name);

