



Review 2&3-

Branch - (Branch_name, branch_city, assets)

Customer - (Customer_id, Customer_name, Customer_street,
Customer_city,)

Employee - (Employee_id, dependent_name, employment_
length, employee_name, telephone_number, start_date,
branch_name)

Loan - (Loan_number, amount, branch_name)

Account - (Account_number, balance,)

Payment - (Payment_number, loan_number, payment_date,
payment_amount)

Account Branch - (branch_name, account_number)

Borrower - (Customer_id, loan_number)

Cost Banker - (Customer_id, Employee_id, type)

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)
```

```
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');
```

```
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);
```

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

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select * from customer;

CUSTOMER_ID	CUSTOMER_NAME	CUSTOMER_STREET	CUSTOMER_CITY
C1	Ram	MK road	Mumbai
C2	Adi	GT Road	Mumbai
C3	Karan	Gumti	Chennai
C4	Om	Parade	Chennai
C5	Kartik	Devki	Vellore
C6	Shiv	Bithoor	Mumbai

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```
/*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	TYPE
C1	E1	Bank teller
C2	E4	Loan processor
C3	E3	Credit Analyst
C4	E2	Asset Manager
C5	E6	Financial Advisor

[Download CSV](#)


```
select employee_id,branch_name,start_date from employee;
```

EMPLOYEE_ID	BRANCH_NAME	START_DATE
E1	Allhabad Bank	30-JAN-14
E2	Punjab National Bank	05-MAR-13
E3	Indian Bank	10-JUL-11
E4	Allhabad Bank	16-FEB-18
E5	Axis Bank	31-MAY-17
E6	Allhabad Bank	15-JUN-08

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

```
SELECT customer_id FROM Customer UNION SELECT customer_id FROM  
Borrower;
```

CUSTOMER_ID
C1
C2
C3
C4
C5
C6

```
/* 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;
```

ACCOUNT_NUMBER
101
102
103
104
105
106

```
/* 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;
```

CUSTOMER_ID
C6

```
/* 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;
```

no data found

```
/* 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;
```

BRANCH_NAME
Allhabad Bank
Indian Bank
Punjab National Bank

```
/* 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
Om	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*/
```

```
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;
```

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

/* 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 l on l.loan_number=b.loan_number;

CUSTOMER_ID	CUSTOMER_NAME	LOAN_NUMBER
C1	Ram	1
C1	Ram	2
C2	Adi	2
C2	Adi	6
C3	Karan	3
C4	Om	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;`

CUSTOMER_ID	TOTAL_BALANCE
C5	280000
C1	215000
C2	180000
C3	158000
C4	30000

`/* Retrieve the minimum balance of accounts for each customer.*/`

`SELECT customer_id, MIN(balance) AS min_balance FROM account GROUP BY customer_id;`

CUSTOMER_ID	MIN_BALANCE
C5	280000
C1	15000
C2	180000
C3	158000
C4	30000

/* 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;

CUSTOMER_ID	LOAN_COUNT
C1	2
C2	2

/*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);
```

CUSTOMER_NAME
Ram
Adi
Karan
Om
Kartik

```
/* Retrieve the branch_city which have an account*/
```

```
select distinct branch_city from branch where branch_name in(select  
branch_name from account_branch);
```

BRANCH_CITY
Chennai
Vellore
Mumbai

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

`select branch_name from branch where branch_name in(select branch_name
from loan);`

BRANCH_NAME
Allhabad Bank
Axis Bank
Indian Bank
Punjab National Bank
State Bank of India

`/* Retrieve the balance which is greater than average of balance*/`

`select balance from account where balance >(select avg(balance) from
account);`

BALANCE
180000
158000
280000
200000

`/*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);`

CUSTOMER_NAME
Shiv

/*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 );
```

CUSTOMER_NAME
Ram
Adi
Karan
Om
Kartik

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

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

BRANCH_NAME
Indian Bank
Indian Bank
Allhabad Bank
Allhabad Bank
Punjab National Bank