

**DBMS - Mini Project**  
**BANK BRANCH MANAGEMENT SYSTEM**

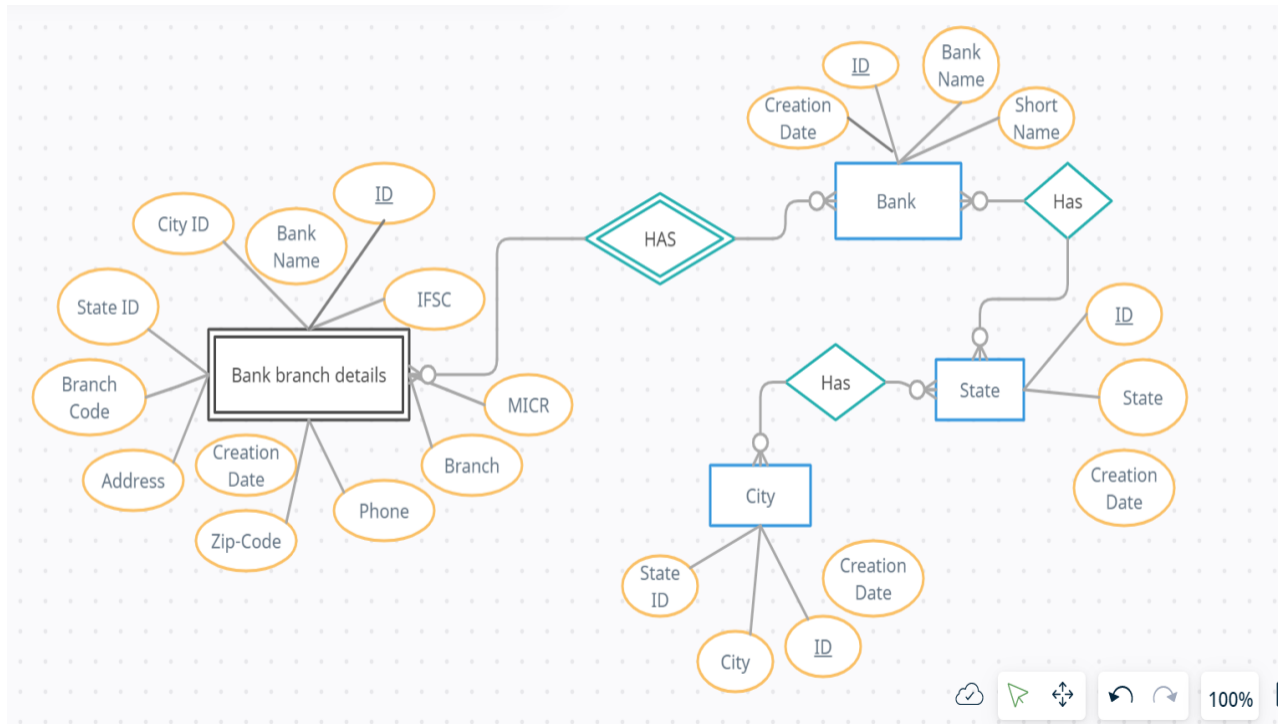
**NAME:** ANANYA NARAYAN BHAT

**SRN:** PES2UG20CS045

**Vth SEMESTER**

**SECTION:** A

## ER DIAGRAM:



## TABLES:

- Table containing bank details: tblbank

Server: 127.0.0.1 » Database: bank\_branch » Table: tblbank

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 ID	int(10)			No	None		AUTO_INCREMENT	Change  Drop
<input type="checkbox"/>	2 BankName	varchar(200)	utf8mb4_general_ci		Yes	NULL			Change  Drop
<input type="checkbox"/>	3 ShortName	varchar(200)	utf8mb4_general_ci		Yes	NULL			Change  Drop
<input type="checkbox"/>	4 CreationDate	timestamp			No	current_timestamp()			Change  Drop

☐ Check all With selected: Browse Change Drop Primary Unique Index Spatial Fulltext

- Table containing bank branch details: tblbankdetail

Server: 127.0.0.1 » Database: bank\_branch » Table: tblbankdetail

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 ID	int(10)			No	None		AUTO_INCREMENT	Change  Drop
<input type="checkbox"/>	2 IFSCCode	varchar(200)	utf8mb4_general_ci		Yes	NULL			Change  Drop
<input type="checkbox"/>	3 MICRCode	varchar(200)	utf8mb4_general_ci		Yes	NULL			Change  Drop
<input type="checkbox"/>	4 BankName	varchar(200)	utf8mb4_general_ci		Yes	NULL			Change  Drop
<input type="checkbox"/>	5 Address	varchar(200)	utf8mb4_general_ci		Yes	NULL			Change  Drop
<input type="checkbox"/>	6 StateID	int(5)			Yes	NULL			Change  Drop
<input type="checkbox"/>	7 CityID	int(5)			Yes	NULL			Change  Drop
<input type="checkbox"/>	8 Branch	varchar(200)	utf8mb4_general_ci		Yes	NULL			Change  Drop
<input type="checkbox"/>	9 PhoneNumber	bigint(10)			Yes	NULL			Change  Drop
<input type="checkbox"/>	10 BranchCode	varchar(200)	utf8mb4_general_ci		Yes	NULL			Change  Drop
<input type="checkbox"/>	11 ZipCode	int(10)			Yes	NULL			Change  Drop
<input type="checkbox"/>	12 CreationDate	timestamp			No	current_timestamp()			Change  Drop

Table containing State and its details: tblstate

Server: 127.0.0.1 » Database: bank\_branch » Table: tblstate

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/> 1	ID	int(10)			No	None		AUTO_INCREMENT	
<input type="checkbox"/> 2	State	varchar(200)	utf8mb4_general_ci		Yes	NULL			
<input type="checkbox"/> 3	CreationDate	timestamp			No	current_timestamp()		ON UPDATE CURRENT_TIMESTAMP()	

☐ Check all
 With selected: Browse Change Drop Primary Unique Index Spatial Fulltext

- Table containing City and its details: tblcity

Server: 127.0.0.1 » Database: bank\_branch » Table: tblcity

Table structure | Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/> 1	ID	int(10)			No	None		AUTO_INCREMENT	
<input type="checkbox"/> 2	StateID	int(10)			Yes	NULL			
<input type="checkbox"/> 3	City	varchar(200)	utf8mb4_general_ci		Yes	NULL			
<input type="checkbox"/> 4	CreationDate	timestamp			No	current_timestamp()		ON UPDATE CURRENT_TIMESTAMP()	

## QUERIES:

### 1.Nested query

Server: 127.0.0.1 » Database: bank\_branch

Structure | SQL | Search | Query | Export | Import | Operations

Run SQL query/queries on database bank\_branch:

```

1  -- Nested query
2  -- INTERSECT operation
3  SELECT tblbank.CreationDate, tblbank.BankName
4  FROM tblbank
5  WHERE Date(CreationDate) IN (SELECT Date(CreationDate) FROM tblcity);
6
  
```

Server: 127.0.0.1 » Database: bank\_branch » Table: tblbank

Showing rows 0 - 0 (1 total, Query took 0.0034 seconds.)

```
-- Nested query -- INTERSECT operation
SELECT tblbank.CreationDate, tblbank.BankName FROM tblbank WHERE Date(CreationDate) IN (SELECT
Date(CreationDate) FROM tblcity);
```

[ Edit inline ] [ Edit ] [ Create PHP code ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

	CreationDate	BankName
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2021-09-21 22:34:38	ICICI

☐ Check all | With selected: ☐ Edit ☐ Copy ☐ Delete ☐ Export

## 2. Correlated query

Server: 127.0.0.1 » Database: bank\_branch

Run SQL query/queries on database bank\_branch:

```
1 -- Correlated query
2 -- Gives output only if there are tuples with the specified date
3 SELECT IFSCCode, MICRCode, branch FROM tblbankdetail
4 WHERE EXISTS (SELECT * FROM tblbank WHERE Date(CreationDate) = '2021-09-18');
```

Server: 127.0.0.1 » Database: bank\_branch » Table: tblbankdetail

Showing rows 0 - 5 (6 total, Query took 0.0015 seconds.)

```
-- Correlated query -- Gives output only if there are tuples with the specified date
SELECT IFSCCode, MICRCode, branch FROM
tblbankdetail WHERE EXISTS (SELECT * FROM tblbank WHERE Date(CreationDate) = '2021-09-18');
```

[ Edit inline ] [ Edit ] [ Create PHP code ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	IFSCCode	MICRCode	branch
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	PUNB12456	PUNB12456	kjhkhkhkhj
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	BARB0MERDEL	250012007	Delhi Road Br Meerut U P
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	BARB0MEEGAR	250012009	Garh Road Meerut Up
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	BARB0DBMCTY	250012013	Meerut City
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	SBIN000391	NA	3 EME Centre bhopal
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	ICICI000123	NA	ICICI Bangalore

## 3. Two queries for SET operation:

## Union ,Union All and Intersect Operation.

### UNION:

Run SQL query/queries on database bank\_branch: ?

```
1 -- Set operations
2 SELECT CreationDate, ShortName FROM tblbank
3 UNION
4 SELECT CreationDate, City FROM tblcity;
5
```

✓ Showing rows 0 - 12 (13 total, Query took 0.0061 seconds.)

-- Set operations SELECT CreationDate, ShortName FROM tblbank UNION SELECT CreationDate, City FROM tblcity;

[ Edit inline ] [ Edit ] [ Create PHP code ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

CreationDate	ShortName
2021-09-18 14:11:32	PNB
2021-09-18 14:17:01	SBI
2021-09-18 14:17:22	BOB
2021-09-18 14:17:58	CBI
2021-09-18 14:18:20	BOI
2021-09-21 22:34:38	ICICI
2021-09-17 12:05:47	Varanasi
2021-09-17 12:01:04	Meerut
2021-09-17 12:01:25	Bhopal
2021-09-17 12:01:40	Patna
2021-09-17 11:52:46	Varanasi
2021-09-17 11:53:02	Amristsar
2021-09-21 22:35:34	Bangalore

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

### UNION ALL:

Server: 127.0.0.1 » Database: bank\_branch

Structure SQL Search Query Export Import Operations Privileges Routines Events

Run SQL query/queries on database bank\_branch: ?

```
1 -- Set operations
2 SELECT CreationDate, ShortName FROM tblbank
3 UNION ALL
4 SELECT CreationDate, City FROM tblcity;
5
```

✓ Showing rows 0 - 12 (13 total, Query took 0.0004 seconds.)

```
-- Set operations SELECT CreationDate, ShortName FROM tblbank UNION ALL SELECT CreationDate, City FROM tblcity;
```

[ [Edit inline](#) ] [ [Edit](#) ] [ [Create PHP code](#) ]

☐ Show all | Number of rows: 25 ▾ Filter rows:  Sort by key: None ▾

Extra options

CreationDate	ShortName
2021-09-18 14:11:32	PNB
2021-09-18 14:17:01	SBI
2021-09-18 14:17:22	BOB
2021-09-18 14:17:58	CBI
2021-09-18 14:18:20	BOI
2021-09-21 22:34:38	ICICI
2021-09-17 12:05:47	Varanasi
2021-09-17 12:01:04	Meerut
2021-09-17 12:01:25	Bhopal
2021-09-17 12:01:40	Patna
2021-09-17 11:52:46	Varanasi
2021-09-17 11:53:02	Amritsar
2021-09-21 22:35:34	Bangalore

☐ Show all | Number of rows: 25 ▾ Filter rows:  Sort by key: None ▾

Query results operations

## INTERSECTION:

← Server: 127.0.0.1 » Database: bank\_branch

Structure SQL Search Query Export Import Operations Privileges

Run SQL query/queries on database bank\_branch: ⓘ

```
1 -- INTERSECT operation
2 SELECT tblbank.CreationDate, tblbank.BankName
3 FROM tblbank
4 WHERE Date(CreationDate) IN (SELECT Date(CreationDate) FROM tblcity);
5
```

✓ Showing rows 0 - 0 (1 total, Query took 0.0003 seconds.)

```
-- INTERSECT operation SELECT tblbank.CreationDate, tblbank.BankName FROM tblbank WHERE Date(CreationDate) IN (SELECT Date(CreationDate) FROM tblcity);
```

[ Edit inline ] [ Edit ] [ Create PHP code ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

	CreationDate	BankName
<input type="checkbox"/> Edit Copy Delete	2021-09-21 22:34:38	ICICI

↑ ☐ Check all With selected: Edit Copy Delete Export

☐ Show all | Number of rows: 25 | Filter rows: Search this table

#### 4.Two queries for Aggregate functions

Counts the number of branches of a particular Bank.

Server: 127.0.0.1 » Database: bank\_branch

Structure SQL Search Query Export Import Operations

Run SQL query/queries on database bank\_branch: ⚙

```
1 -- Aggregate Function
2 SELECT BankName, COUNT(*)
3 FROM tblbankdetail
4 GROUP BY BankName;
```



Server: 127.0.0.1 » Database: bank\_branch » Table: tblbankdetail

Browse Structure SQL Search Insert Export Import Privileges Operations Triggers

Showing rows 0 - 3 (4 total, Query took 0.0005 seconds.)

```
-- Aggregate Function SELECT BankName, COUNT(*) FROM tblbankdetail GROUP BY BankName;
```

[ Edit inline ] [ Edit ] [ Create PHP code ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

BankName	COUNT(*)
1	1
2	1
3	3
7	1

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Selects the Bank ID that has branches more than 2

Server: 127.0.0.1 » Database: bank\_branch

Structure SQL Search Query Export Import Operations

Run SQL query/queries on database bank\_branch:

```
1 SELECT BankName, COUNT(*)
2 FROM tblbankdetail
3 GROUP BY BankName
4 HAVING COUNT(*) > 2 ;
```

Server: 127.0.0.1 » Database: bank\_branch » Table: tblbankdetail

Browse Structure SQL Search Insert Export Import Privileges Operations Triggers

Show query box

Your SQL query has been executed successfully.

```
SELECT BankName, COUNT(*) FROM tblbankdetail GROUP BY BankName HAVING COUNT(*) > 2;
```

☐ Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

Extra options

BankName	COUNT(*)
3	3

Query results operations

## 5.Two queries with Order By clause

Displays the output in the ascending alphabetical order of City

Server: 127.0.0.1 » Database: bank\_branch

Structure SQL Search Query Export Import Operations

Run SQL query/queries on database bank\_branch: ?

```
1 -- Order by clause
2 SELECT StateID, City FROM tblcity
3 ORDER BY City;
```

Server: 127.0.0.1 » Database: bank\_branch » Table: tblcity

Browse Structure SQL Search Insert Export Import Privileges Operations

✓ Showing rows 0 - 6 (7 total, Query took 0.0004 seconds.) [City: AMRISTSAR... - VARANASI...]

-- Order by clause SELECT StateID, City FROM tblcity ORDER BY City;

[ Edit inline ] [ Edit ] [ Create PHP code ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	StateID	City
<input type="checkbox"/> Edit Copy Delete	10	Amristsar
<input type="checkbox"/> Edit Copy Delete	13	Bangalore
<input type="checkbox"/> Edit Copy Delete	6	Bhopal
<input type="checkbox"/> Edit Copy Delete	5	Meerut
<input type="checkbox"/> Edit Copy Delete	12	Patna
<input type="checkbox"/> Edit Copy Delete	0	Varanasi
<input type="checkbox"/> Edit Copy Delete	5	Varanasi

Displays the output in the descending order of State ID

The screenshot shows a database management interface with the following components:

- Top Bar:** Server: 127.0.0.1 » Database: bank\_branch. Navigation tabs: Structure, SQL, Search, Query, Export, Import, Operations, Privileges.
- Query Editor:** A text area with the following SQL code:

```
1 SELECT StateID, City FROM tblcity
2 ORDER BY StateID DESC;
3
4 -- Query for search
5 SELECT tblbank.BankName as bn
```
- Results Panel:** Shows the execution of the first query. It includes a status bar: "Showing rows 0 - 6 (7 total, Query took 0.0005 seconds.) [StateID: 13... - 0...]". Below this is the executed query: `SELECT StateID, City FROM tblcity ORDER BY StateID DESC;`. There are links for Profiling, Edit inline, Edit, Explain SQL, Create PHP code, and Refresh.
- Filtering and Sorting:** A section with "Show all", "Number of rows: 25", "Filter rows: Search this table", and "Sort by key: None".
- Table View:** A table with columns StateID and City. Each row has checkboxes for Edit, Copy, and Delete.

StateID	City
13	Bangalore
12	Patna
10	Amritsar
6	Bhopal
5	Meerut
5	Varanasi
0	Varanasi

## Function or Stored Procedure

The screenshot shows the same database management interface, but with the following changes:

- Top Bar:** The "Routines" tab is now visible in the navigation bar.
- Query Editor:** The SQL code is:

```
1 -- Functions
2 -- Using inbuilt function cast
3 -- Splitting Date and Time
4 SELECT cast(CreationDate AS date), cast(CreationDate AS Time) FROM tblbank;
5
```

✓ Showing rows 0 - 5 (6 total, Query took 0.0014 seconds.)

```
-- Functions -- Using inbuilt function cast -- Splitting Date and Time
SELECT cast(CreationDate AS date),cast(CreationDate AS Time) FROM
tblbank;
```

[ Edit inline ] [ Edit ] [ Create PHP code ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

cast(CreationDate AS date)	cast(CreationDate AS Time)
2021-09-18	14:11:32
2021-09-18	14:17:01
2021-09-18	14:17:22
2021-09-18	14:17:58
2021-09-18	14:18:20
2021-09-21	22:34:38

## Creating a Function:

isValid() tells if the ID in the input is a valid ID for the state. The valid ID ranges from 1 to 28 because there can be no more than 28 states in India.

Server: 127.0.0.1 » Database: bank\_branch

Structure SQL Search Query Export Import Operations Privileges

Run SQL query/queries on database bank\_branch:

```
1 -- Creating a Function
2 DELIMITER $$
3 CREATE FUNCTION isValid(
4 stateID INTEGER )
5 RETURNS VARCHAR(20)
6 DETERMINISTIC
7 BEGIN
8 IF stateID > 28 THEN
9 RETURN ("invalid");
10 ELSE
11 RETURN ("valid");
12 END IF;
13 END
14 $$
15
```

Server: 127.0.0.1 » Database: bank\_branch

Structure SQL Search Query Export Import Operations Privileges Routines Events More

Show query box

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0137 seconds.)

```
CREATE FUNCTION isValid( stateID INTEGER ) RETURNS VARCHAR(20) DETERMINISTIC BEGIN IF stateID > 28 THEN RETURN ("invalid"); ELSE RETURN ("valid"); END IF; END;
```

[ Edit inline ] [ Edit ] [ Create PHP code ]

Server: 127.0.0.1 » Database: bank\_branch

Structure SQL Search Query Export Import Operations Privileges

Run SQL query/queries on database bank\_branch:

```
1 SELECT isValid(30);
2 SELECT isValid(5);
```

Showing rows 0 - 0 (1 total, Query took 0.0068 seconds.)

```
SELECT isValid(30);
```

☐ Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

**isValid(30)**

invalid

☐ Show all | Number of rows: 25 | Filter rows: Search this table

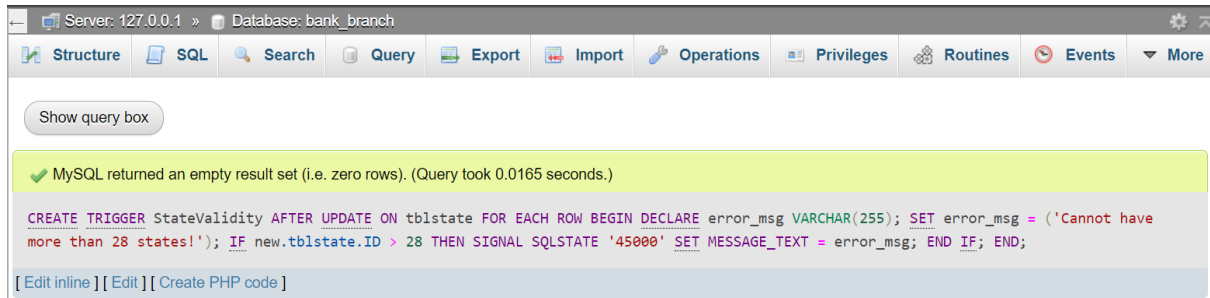
## Trigger

Server: 127.0.0.1 » Database: bank\_branch

Structure SQL Search Query Export Import Operations Privileges

Run SQL query/queries on database bank\_branch:

```
1 -- Trigger
2 DELIMITER $$
3 CREATE TRIGGER StateValidity
4   AFTER UPDATE ON tblstate
5   FOR EACH ROW
6   BEGIN
7     DECLARE error_msg VARCHAR(255);
8     SET error_msg = ('Cannot have more than 28 states!');
9     IF new.tblstate.ID > 28 THEN
10      SIGNAL SQLSTATE '45000'
11      SET MESSAGE_TEXT = error_msg;
12     END IF;
13 END $$
```



## FRONTEND:

**Query:** A search box is implemented. This is used to search and find the details of a particular branch.

There is a choice of giving any bank name, branch name or zip-code to search and get details for.

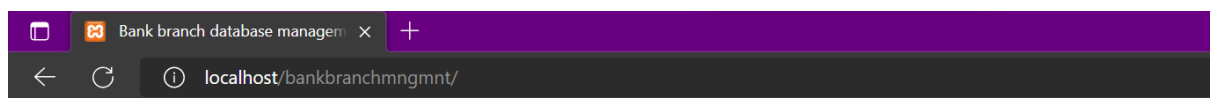
### BANK BRANCH DATABASE MANAGEMENT

## Search Bank Detail

SEARCH

```
-- Query for Search
SELECT tblbank.BankName as bn,
       tblbank.ID as bid, tblbank.ShortName, tblstate.State,
       tblcity.ID as cid, tblcity.StateID, tblcity.City,
       tblbankdetail.IFSCCode, tblbankdetail.StateID,
       tblbankdetail.ID as bdid, tblbankdetail.CityID,
       tblbankdetail.BankName, tblbankdetail.MICRCode,
       tblbankdetail.BankName, tblbankdetail.Address,
       tblbankdetail.Branch, tblbankdetail.PhoneNumber,
       tblbankdetail.BranchCode, tblbankdetail.ZipCode, tblbankdetail.CreationDate
from tblbankdetail inner join tblstate
on tblbankdetail.StateID=tblstate.ID join tblcity
on tblbankdetail.CityID=tblcity.ID join tblbank
on tblbankdetail.BankName=tblbank.ID
where (tblbank.BankName like '%$data%' || tblbankdetail.ZipCode like '%$data%' || tblbankdetail.Branch like '%$data%');
```

Search for a bank name:



## BANK BRANCH DATABASE MANAGEMENT

# Search Bank Detail

BANK BRANCH MANAGEMENT DATABASE

Result of "Bank of baroda" Bank Detail

S.No.	Bank Name	State	City	Branch	IFSC Code	MICR Code	Address	Zip Code	Contact Number
1	Bank of Baroda (BOB)	Uttar Pradesh	Meerut	Delhi Road Br Meerut U P	BARB0MERDEL	250012007	Vikash Plaza, Sri Ram Palace, Near Naveen Mandi, Delhi Road, Meerut, Uttar Pradesh-	250	1800223344

Search for Zip-Code

Search Bank Detail

123456

SEARCH



Result of "123456" Bank Detail

S.No.	Bank Name	State	City	Branch	IFSC Code	MICR Code	Address	Zip Code	Contact Number
1	Punjab National Bank (PNB)	Uttar Pradesh	Meerut	kjhkhkhkhkh	PUNB12456	PUNB12456	hkjhrehrrkh4t3a	123456	9789789798

Search for Branch name:

BANK BRANCH DATABASE MANAGEMENT

Search Bank Detail

ICICI Bangalore

SEARCH

Result of "ICICI Bangalore" Bank Detail

S.No.	Bank Name	State	City	Branch	IFSC Code	MICR Code	Address	Zip Code	Contact Number
1	ICICI (ICICI)	Karnataka	Bangalore	ICICI Bangalore	ICICI000123	NA	ABC Street	500015	1236547896

THANK YOU