

Bank Management System

1) Understand the given problem statement and apply W3H to analyze it.

what?	How?
<p>1) What are the details needed for the Bank management System?</p> <p>Registration details Customer details Account details Bank details Branch details</p> <p>2) What are the attributes to be included for Registration details?</p> <p>Registration details</p> <p>i) registrationid ii) customerid iii) name iv) number v) name vi) address vii) gender viii) email</p> <p>3) What are the attributes to be included for Customer details?</p> <p>Customer details</p> <p>i) CustomerId ii) CustomerName iii) CustomerNumber iv) Customer Address v) CustomerEmailDesc vi) accountNumber</p> <p>3) What are the attributes to be included for Account details?</p> <p>Account Details:</p> <p>i) holderName ii) name iii) accountNumber</p>	<p>1) How are these bank management systems required?</p> <p>Registration Table Customer Table Account Table Bank Table Branch Table</p> <p>2) How will you identify the key attributes?</p> <p>RegistrationTable:</p> <p>RegistrationId(primary key)</p> <p>CustomerTable:</p> <p>i) Customer_Id(primary Key) ii) account_number(foreign key)</p> <p>AccountTable</p> <p>i) Account_number(primary key) ii) bank_id(foreign key)</p> <p>BankTable</p> <p>i) Bank_id(primary key) ii) customerid(foreign key)</p> <p>BranchTable:</p> <p>i) BranchId(primary key) ii) Bank_id(foreign key)</p>

iv)IFSCCode
v)bankId

4)What are the attributes to be included for Bank details?

Bank Details:

i)Bank Id
ii)Bank Name
iii)Branch Name
iv)customerId

5)What are the attributes to be included for Branch details?

Branch Details:

i)Branch Id
ii)Branch Name
iii)Branch Code
iv)Branch Address
v)BankId

Why?	Why not?
<p>1)Why do you use Primary key and foreign key for these attributes?</p> <p>Registration table; RegistrationId(primary key)</p> <p>Easy to identify the customer</p> <p>CustomerTable: Customer_Id(primary Key) account_number(foreign key)</p> <p>By using primary keys for customerid we can identify the customer uniquely. By using foreign for account number we can establish the connection</p> <p>AccountTable Account_number(primary key) bank_id(foreign key)</p> <p>By using the primary key for account numbers we can use unique account numbers. By using foreign key for bank id we can establish the connection</p> <p>BankTable Bank_id(primary key) customerid(foreign key)</p> <p>By using the primary key for bank id we can identify the bank. By using foreign key for customer id we can establish the connection</p> <p>BranchTable: BranchId(primary key) Bank_id(foreign key)</p> <p>By using the primary key for branch id we can identify the bank. By using foreign key for bank id we can establish the connection.</p>	<p>1)why do you not use other columns as a primary key and foreign key?</p> <p>We can use the Primary key only for unique columns. Primary key will not allow duplicate values.</p> <p>Use foreign keys only to establish the connection between the tables.</p>

2)Bring out the list of tables and attributes required for the database design.

```
mysql> show tables;
+-----+
| Tables_in_bank_management |
+-----+
| account_tbl               |
| bank_tbl                  |
| branch_tbl                |
| customer_tbl              |
| registration_tbl          |
+-----+
5 rows in set (0.01 sec)
```

3)Apply Normalization.

```
mysql> select*
-> from account_tbl;
+-----+-----+-----+-----+-----+
| holder_name | name           | account_number | IFSC_code | bank_id |
+-----+-----+-----+-----+-----+
| Sneakha     | Saving account | 84736534       | SBI98463  | 113     |
| Vinisha     | Saving account | 948747443      | IOB676744 | 114     |
| Vinolisha   | Saving account | 94876743       | IOB98744  | 111     |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

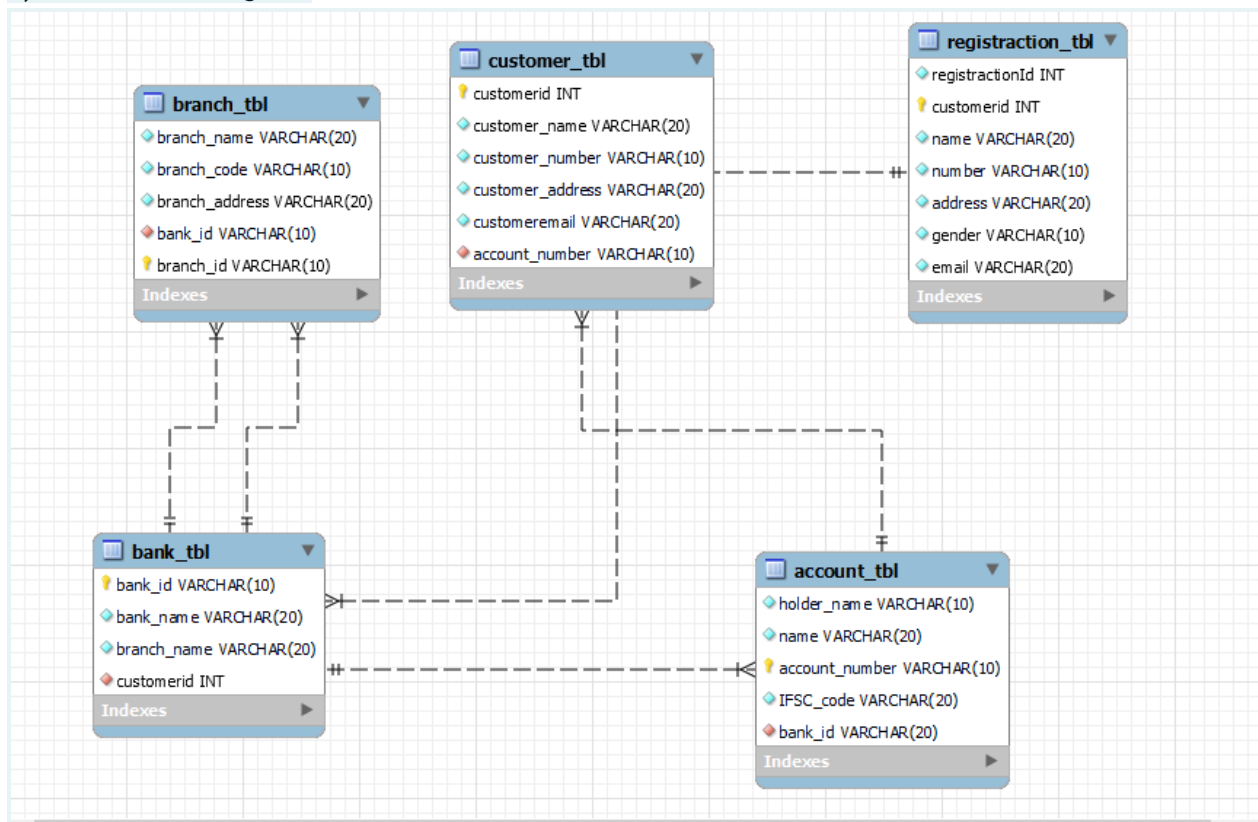
```
mysql> select*
-> from bank_tbl;
+-----+-----+-----+-----+
| bank_id | bank_name | branch_name | customerid |
+-----+-----+-----+-----+
| 111     | IOB       | Villukuri   | 222        |
| 113     | SBI       | Swamiyarmada, | 223        |
| 114     | CNA       | Attoor      | 224        |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> select*
-> from registraction_tbl;
+-----+-----+-----+-----+-----+-----+-----+
| registractionId | customerId | name   | number | address | gender | email               |
+-----+-----+-----+-----+-----+-----+-----+
| 1               | 222       | vinolisha | 98763564 | chennai | female | vinolisha8@gmail.com |
| 2               | 223       | vinisha  | 99237434 | attoor  | female | vinisha@gmail.com    |
| 3               | 224       | sneakha  | 987647434 | coimbatore | female | sneakha@gmail.com    |
+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> select*
-> from customer_tbl;
+-----+-----+-----+-----+-----+-----+
| customerId | customer_name | customer_number | customer_address | customeremail | account_number |
+-----+-----+-----+-----+-----+-----+
| 1          | vinolisha    | 98763564       | chennai         | vinolisha8@gmail.com | 94876743      |
| 2          | sneakha      | 987647434      | coimbatore      | vinisha@gmail.com    | 84736534      |
| 3          | vinisha      | 99237434       | Attoor          | sneakha@gmail.com    | 948747443     |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> select*
-> from branch_tbl;
+-----+-----+-----+-----+-----+
| branch_name | branch_code | branch_address | bank_id | branch_id |
+-----+-----+-----+-----+-----+
| Villukuri   | IOB         | Nagercoil      | 111     | 1010      |
| Swamiyarmadam | SBI         | Vellachicilai | 113     | 1011      |
| Attoor      | CNA         | Vellor         | 114     | 1012      |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

4) Draw an ER Diagram



5)Perform the CRUD operations

Account Table:

```
mysql> insert into account_tbl values("Vinisha","Saving account",948747443,"IOB676744");
Query OK, 1 row affected (0.03 sec)
```

```
mysql> insert into account_tbl values("Priya","Saving account",9437347443,"IOB6346744");
Query OK, 1 row affected (0.02 sec)
```

```
mysql> select*
```

```
-> from account_tbl;
```

holder_name	name	account_number	IFSC_code
Priya	Saving account	9437347443	IOB6346744
Vinisha	Saving account	948747443	IOB676744
Vinolisha	Saving account	94876743	IOB98744

```
mysql> select holder_name
-> from account_tbl;
```

holder_name
Priya
Vinisha
Vinolisha

```
3 rows in set (0.00 sec)
```

```
mysql> delete
-> from account_tbl
-> where holder_name="Priya";
Query OK, 1 row affected (0.01 sec)

mysql> select*
-> from account_tbl;
+-----+-----+-----+-----+
| holder_name | name          | account_number | IFSC_code |
+-----+-----+-----+-----+
| Vinisha    | Saving account | 948747443      | IOB676744 |
| Vinolisha   | Saving account | 94876743       | IOB98744  |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql>
```

```
mysql> insert into account_tbl values("Sneakha","Saving account",84736534,"SBI98463");
Query OK, 1 row affected (0.01 sec)

mysql> select*
-> from account_tbl;
+-----+-----+-----+-----+
| holder_name | name          | account_number | IFSC_code |
+-----+-----+-----+-----+
| Sneakha     | Saving account | 84736534       | SBI98463  |
| Vinisha     | Saving account | 948747443      | IOB676744 |
| Vinolisha   | Saving account | 94876743       | IOB98744  |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

Bank Table:

```
mysql> desc bank_tbl;
```

Field	Type	Null	Key	Default	Extra
bank_id	varchar(10)	NO	PRI	NULL	
bank_name	varchar(20)	NO		NULL	
branch_name	varchar(20)	NO		NULL	

```
3 rows in set (0.00 sec)
```



```
mysql> select*
-> from bank_tbl;
```

bank_id	bank_name	branch_name
111	IOB	Villukuri
112	IOB	Villukuri
113	SBI	Swamiyarmada,

```
3 rows in set (0.00 sec)
```

Customer Table:

```
mysql> desc customer_tbl;
```

Field	Type	Null	Key	Default	Extra
customer_id	varchar(10)	NO	PRI	NULL	
customer_name	varchar(20)	NO		NULL	
customer_number	varchar(10)	NO		NULL	
customer_address	varchar(20)	NO		NULL	
customeremail	varchar(20)	NO		NULL	
account_number	varchar(10)	NO		NULL	

```
6 rows in set (0.00 sec)
```



```
mysql> insert into customer_tbl values(1,"Vinolisha",98763564,"Chennai","vinolisha8@gmail.com",94876743);
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer_tbl values(2,"Sneakha",987647434,"Coimbatore","sneakha@gmail.com",84736534);
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer_tbl values(3,"Vinisha",99237434,"Attoor","vinisha@gmail.com",948747443);
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer_tbl values(3,"Vinisha",99237434,"Attoor","vinisha@gmail.com",948747443);
ERROR 1062 (23000): Duplicate entry '3' for key 'customer_tbl.PRIMARY'
mysql> insert into customer_tbl values(4,"Vinisha",99237434,"Attoor","vinisha@gmail.com",948747443);
Query OK, 1 row affected (0.01 sec)

mysql> select*
-> from customer_tbl;
+-----+-----+-----+-----+-----+-----+
| customer_id | customer_name | customer_number | customer_address | customeremail | account_number |
+-----+-----+-----+-----+-----+-----+
| 1 | Vinolisha | 98763564 | Chennai | vinolisha8@gmail.com | 94876743 |
| 2 | Sneakha | 987647434 | Coimbatore | sneakha@gmail.com | 84736534 |
| 3 | Vinisha | 99237434 | Attoor | vinisha@gmail.com | 948747443 |
| 4 | Vinisha | 99237434 | Attoor | vinisha@gmail.com | 948747443 |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> delete
-> from customer_tbl
-> where customer_id=4;
Query OK, 1 row affected (0.01 sec)

mysql> select*
-> from customer_tbl;
+-----+-----+-----+-----+-----+-----+
| customer_id | customer_name | customer_number | customer_address | customeremail | account_number |
+-----+-----+-----+-----+-----+-----+
| 1 | Vinolisha | 98763564 | Chennai | vinolisha8@gmail.com | 94876743 |
| 2 | Sneakha | 987647434 | Coimbatore | sneakha@gmail.com | 84736534 |
| 3 | Vinisha | 99237434 | Attoor | vinisha@gmail.com | 948747443 |
+-----+-----+-----+-----+-----+-----+
```

Registration Table:

```
mysql> desc registration_tbl;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| name | varchar(20) | NO | | NULL | |
| number | varchar(10) | NO | | NULL | |
| address | varchar(20) | NO | | NULL | |
| gender | varchar(10) | NO | | NULL | |
| email | varchar(20) | NO | | NULL | |
| registrationId | varchar(10) | NO | PRI | NULL | |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

```
mysql> insert into registration_tbl values("Vinolisha",98763564,"chennai","Female","vinolisha8@gmail.com",222);
Query OK, 1 row affected (0.01 sec)

mysql> insert into registration_tbl values("Vinisha",99237434 ,"Attoor","Female","vinisha@gmail.com",223),("sneakha",
987647434 ,"Coimbatore","Female","sneakha@gmail.com",224);
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> select*
-> from registration_tbl;
```

name	number	address	gender	email	registrationId
Vinolisha	98763564	chennai	Female	vinolisha8@gmail.com	222
Vinisha	99237434	Attoor	Female	vinisha@gmail.com	223
sneakha	987647434	Coimbatore	Female	sneakha@gmail.com	224

```
3 rows in set (0.00 sec)
```

```

    -> from bank_tbl;
+-----+-----+-----+
| bank_id | bank_name | branch_name |
+-----+-----+-----+
| 111     | IOB       | Villukuri   |
| 112     | IOB       | Villukuri   |
| 113     | SBI       | Swamiyarmada, |
| 114     | SBI       | Swamiyarmadam |
+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> delete
    -> from bank_tbl
    -> where bank_id=112;
Query OK, 1 row affected (0.03 sec)

mysql> delete
    -> from bank_tbl
    -> where bank_id=114;
Query OK, 1 row affected (0.03 sec)

mysql> select*
    -> from bank_tbl;
+-----+-----+-----+
| bank_id | bank_name | branch_name |
+-----+-----+-----+
| 111     | IOB       | Villukuri   |
| 113     | SBI       | Swamiyarmada, |
+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> insert into bank_tbl values(114,"CNA","Attoor");
Query OK, 1 row affected (0.03 sec)

mysql> select*
    -> from bank_tbl;
+-----+-----+-----+
| bank_id | bank_name | branch_name |
+-----+-----+-----+
| 111     | IOB       | Villukuri   |
| 113     | SBI       | Swamiyarmada, |
| 114     | CNA       | Attoor      |
+-----+-----+-----+
3 rows in set (0.00 sec)

```

Branch Table:

```
mysql> insert into branch_tbl values("Villukuri",10101,"Nagercoil",111,222);
Query OK, 1 row affected (0.03 sec)
```

```
mysql> select*
```

```
-> from branch_tbl;
```

```
+-----+-----+-----+-----+-----+
| branch_name | branch_code | branch_address | bank_id | branch_id |
+-----+-----+-----+-----+-----+
| Villukuri   | IOB         | Nagercoil     | 111     | 1010      |
| Villukuri   | 10101       | Nagercoil     | 111     | 222       |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> delete
```

```
-> from branch_tbl
```

```
-> where branch_id=222;
```

```
Query OK, 1 row affected (0.03 sec)
```

```
mysql> select*
```

```
-> from branch_tbl;
```

```
+-----+-----+-----+-----+-----+
| branch_name | branch_code | branch_address | bank_id | branch_id |
+-----+-----+-----+-----+-----+
| Villukuri   | IOB         | Nagercoil     | 111     | 1010      |
+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> insert into branch_tbl values("Attoor","CNA","Vellor",114,1012);
Query OK, 1 row affected (0.02 sec)
```

```
mysql> select*
```

```
-> from branch_tbl;
```

```
+-----+-----+-----+-----+-----+
| branch_name | branch_code | branch_address | bank_id | branch_id |
+-----+-----+-----+-----+-----+
| Villukuri   | IOB         | Nagercoil     | 111     | 1010      |
| Swamiyarmadam | SBI        | Vellachicilai | 113     | 1011      |
| Attoor      | CNA         | Vellor        | 114     | 1012      |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```