

**NATIONAL INSTITUTE OF TECHNOLOGY**  
**WARANGAL**

**BANKING DATABASE MANAGEMENT  
SYSTEM -DBMS PROJECT**

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## **Problem Statement:**

The Bank Account Management System is an application for maintaining records of the daily transactions in a bank. In this project, we have simulated the database of a bank. It stores information about all the accounts registered in the bank and the account holders. It also keeps track of the changing rate of interests, the status of payment of loans e.t.c. The database also holds information about the employees of the bank and keeps track of which employee has been allotted which responsibility. The application is used for crediting/ debiting from the accounts and processing all the transactions in between the accounts. It can also be used to deposit salaries of the employees.

The database has been designed in a way that ensures easy accessibility and updation. It has been normalized to BCNF normal form rule out chances of data redundancy.

## **Contents:**

- Tables
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- Functional Dependencies and Primary / Foreign Keys
- Normalization
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## **Tables :**

### **1. Account**

<b>Attribute</b>	<b>Datatype</b>	<b>Constraints and Characteristics</b>
Acc_no	INTEGER	Primary key , Not null
Cust_id .	INTEGER	Foreign key, Not null

Acc_type	VARCHAR2(20)	Not null
Balance	DOUBLE	Not null
Open_date	DATE	Not null
Interest_rate	INT	Not null
Interest_amount	INTEGER	Not null
Interest_id	INT	Foreign key, Not null
Createdby	INT	Foreign key, Not null

## 2. Deposit Account

Attribute	Datatype	Constraints and Characteristics
Deposit_acc_no	INTEGER	Primary key , Not null

Closure_type	VARCHAR2(20)	Not null
Cust_id	INT	Foreign key, Not null
Acc_no	INTEGER	Foreign key, Not null
Initial_amount	DOUBLE	Not null
Deposit_acc_type	VARCHAR(20)	Not null
Interest_amount	INT	Not null
Interest_id	INTEGER	Foreign key, Not null
Current_balance	DOUBLE	Not null
duration	INT	Not null
Open_date	DATE	Not null
Close_date	DATE	Not null

Days	INT	Not null
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Interest_rate	INT	Not null
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### 3. Loan Account

Attribute	Datatype	Constraints and Characteristics
Loan_id	INTEGER	Primary key , Not null
Description	VARCHAR2(50)	Not null
Status	VARCHAR2(20)	Not null
Interest	INT	Not null
Total_amount	DOUBLE	Not null
Remaining_amount	DOUBLE	Not null
Duration	INT	Not null
Date_of_loan	DATE	Not null
Loan_type	VARCHAR(20)	Not null

Acc_no	INT	Foreign key, Not null
ApprovedBy	INT	Foreign key, Not null
MadeBy	INT	Foreign key, Not null

#### 4. Customer

Cust_ID	INT	Primary Key, Not null
PAN	INT	Unique
Contact_no	INT	Not null
First_name	VARCHAR(20)	Not null
Middle_name	VARCHAR(20)	-----
Last_name	VARCHAR(20)	Not null
Email	VARCHAR(20)	Not null
Gender	CHAR	-----
DOB	DATE	Not null

AddressPinCode	VARCHAR(20)	ForeignKey, Not null
Salary	INT	-----
OfficerEmp_ID	INT	Foreign Key, Not null

## 5. Officer

Emp_ID	INT	Primary Key, Not null
Username	VARCHAR(20)	Unique, Not null
Password	VARCHAR(20)	Unique, Not null
First_name	VARCHAR(20)	Not null
Middle_name	VARCHAR(20)	-----
Last_name	VARCHAR(20)	Not null
Contact_no	INT	Not null
Gender	CHAR	-----
DOB	DATE	Not null
AddressPinCode	VARCHAR(20)	Foreign Key, Not null
Salary	DOUBLE	Not null
Manager_ID	INT	Foreign Key, Not null

## 6. Transactions

Trans_ID	INT	Primary Key, Not null
Ac_no	INT	Foreign Key, Not null
Trans_type	VARCHAR(20)	Not null
Cust_ID	INT	Foreign Key, Not null

OfficerEmp_ID	INT	Foreign Key, Not null
Amount	DOUBLE	Not null
Total_Balance	DOUBLE	Not null
Date_of_Trans	DATE	Not null

## 7. Address

PIN	INT	Primary key, Not null
Nationality	VARCHAR(20)	Not null
State	VARCHAR(20)	Not null
City	VARCHAR(20)	Not null
Street	VARCHAR(20)	Not null

## 8. Manager

Emp_ID	INT	Primary key, not null
Email	VARCHAR	Unique, Not null
Username	VARCHAR	Unique, Not null
Password	VARCHAR	Not null
First_name	VARCHAR	Not null
Middle_name	VARCHAR	
Last_name	VARCHAR	Not null
Salary	DOUBLE	Not null

DOB	DATE	
Contact	INT	Unique, Not null
Gender	VARCHAR	
AddressPINCode	VARCHAR	Foreign key, not null

## 9. Interest

Instrest_id	VARCHAR	Primary key and not null
Savings_int	DOUBLE	Not null
LoanInterest	DOUBLE	Not null
Rd_int	DOUBLE	Not null
Fd_int	DOUBLE	Not null
Current_int	DOUBLE	Not null
Updatedby	INT	Foreign Key and Not null

## ER Model Clarifications-

- Each customer can **have** several Accounts but each Account has only one AccountHolder, i.e, 1: n relationship.
- Each customer asks **requests** to only one officer.
- Each customer can **request** several transactions.
- Every officer is **governed** by one Manager, but a Manager can have several Officers working under him.

- An officer **controls** several Transactions on behalf of Customer requests.
- An officer can **create** several Accounts and **make** several Loan Accounts.
- Each Manager **approves** several Loan Accounts and **updates** several Interest Rates.
- An Account **can be** a Deposit Account.
- No customers and employees or employees have multiple address, contacts, and email IDs.

## Functional Dependencies and Primary / Foreign Key

1. **Account:**  $\text{Acc\_no} \rightarrow (\text{Acc\_no}, \text{Cust\_id}, \text{Acc\_type}, \text{Balance}, \text{Open\_date}, \text{interest\_rate}, \text{interest\_amount}, \text{interest\_id}, \text{CreatedBy})$ .

Since  $\text{Acc\_no}$  uniquely determines all the other attributes of the table Account, i.e.,  $(\text{Acc\_no}) + \rightarrow R$ , **Acc\_no** is selected as the primary key.

$\text{Cust\_id}$ ,  $\text{interest\_id}$  and  $\text{CreatedBy}$  are taken as foreign key from tables Customer and Interest and Officer.

### 2. Deposit Account:

$\text{Deposit\_acc\_no} \rightarrow (\text{Deposit\_acc\_no}, \text{closure\_type}, \text{Cust\_id}, \text{Acc\_no}, \text{initial\_amount}, \text{Deposit\_acc\_type}, \text{interest\_amount}, \text{Interest\_id}, \text{Current\_balance}, \text{duration}, \text{Open\_date}, \text{Close\_date}, \text{Days}, \text{interest\_rate})$ .

Since  $\text{Deposit\_acc\_no}$  uniquely determines all the other attributes of the table

Deposit Account ,i.e,(**Deposit\_acc\_no**) + -> R, **Deposit\_acc\_no** is selected as the primary key.

Acc\_no, Cust\_id and Interest\_id are taken as foreign key from table Account, Customer and Interest.

### 3. Loan Account:

**Loan\_id** →( **Loan\_id** , Description , Status , interest , Total\_amount , Remaining\_amount , Duration , Date\_of\_loan , Loan\_type , Acc\_no,MadeBy,ApprovedBy). Since **Loan\_id** uniquely determines all the other attributes of the table Loan Account ,i.e,(**Loan\_id**) + -> R, **Loan\_id** is selected as the primary key.

Acc\_no,MadeBy and CreatedBy are taken as foreign key from tables Account,Officer and Manager.

### 4. Customer:

**Cust\_ID**→( **Cust\_ID**,Name,Email,Contact\_no,Gender,DOB,PAN,AddressPinCode,Salary, OfficerEmp\_ID).

Since **Cust\_ID** uniquely determines all the other attributes of the table Customer,i.e,(**Cust\_ID**) + -> R, **Cust\_ID** is selected as the primary key.

PAN is also an unique attribute but all customers may not have a PAN card, so it is not chosen as primary key.

Since, relation between customer and officer is 1:1 **Cust\_ID** uniquely identifies OfficerEmp\_ID which is the foreign key Emp\_ID from Officer table.

### 5. Officer:

**Emp\_ID**→( **Emp\_ID**,Username,Password,Name,Email,Contact\_no,Gender,DOB,AddressPinCode,Salary,Manager\_ID).

Since **Emp\_ID** uniquely determines all the other attributes of the table Officer,i.e,(**Emp\_ID**) + -> R, **Emp\_ID** is selected as the primary key.

The relation between Officer and Manager is n:1, i.e, each officer has exactly one manager,**Emp\_ID** can uniquely identify Manager\_ID which is the foreign key Emp\_ID from Manager table.

### 6.Transaction:

**Trans\_ID**→( **Trans\_ID**,Acc\_no,Trans\_type,Amount,TotalBalance,Date\_of\_Trans, Cust\_ID ,Officer\_ID).

**(Trans\_ID)+** -> R as it determines all other attributes including Cust\_ID and Officer\_ID which are foreign keys from Customer and Officer tables respectively.

### **7. Address:**

**Pin** → **(Pin, Nationality, State, City, Street).**

**(Pin)+** -> R as it determines all other attributes. Hence, **Pin** is selected as the primary key.

### **8. Manager**

**Emp\_ID** → ( Emp\_ID, Email, Nationality, Username, Password, First\_name, Middle\_name, Last\_name, Salary, DOB, Contact, Gender, AddressPINCode)

Since **Emp\_ID** uniquely determines all the other attributes of the table Manager, i.e., **(Emp\_ID) +** -> R, **Emp\_ID** is selected as the primary key.

### **9. Interest**

**Interest\_ID** → (Instrest\_ID, Savings\_int, LoanInterest, Rd\_int, Fd\_int, Current\_int)  
**Interest\_ID** acts as the primary key for this relation, as it uniquely determines the rest.

## **Normalisation-**

## 1. Account

Primary key: Acc\_no

There are no multivalued valued attributes in the table as mentioned in the ER diagram clarification. Hence, Account table is 1NF.

All attributes depend on the Acc\_no , hence the table is 2NF.

All attributes depend directly on Acc\_no , hence the table is in 3NF.

All determinants(Acc\_no) are candidate keys, hence the table is in BCNF.

## 2. Deposit Account

Primary key: Deposit\_acc\_no There are no multivalued valued attributes in the table as mentioned in the ER diagram clarification. Hence, Deposit Account table is 1NF.

All attributes depend on the Deposit\_acc\_no hence the table is 2NF.

All attributes depend directly on Deposit\_acc\_no , hence the table is in 3NF.  
All determinants(Deposit\_acc\_no) are candidate keys, hence the table is in BCNF.

## 3. Loan Account

Primary key: Loan\_id

There are no multivalued valued attributes in the table as mentioned in the ER diagram clarification. Hence, Loan Account table is 1NF.

All attributes depend on the Loan\_id , hence the table is 2NF.

All attributes depend directly on Loan\_id , hence the table is in 3NF.

All determinants(Loan\_id ) are candidate keys, hence the table is in BCNF.

## 4. Customer

Primary key: Cust\_ID

There are no multivalued valued attributes in the table as mentioned in the ER diagram clarification. Hence, Customer table is 1NF.

All attributes depend on the Cust\_ID, hence the table is 2NF.

All attributes depend directly on Cust\_ID, hence the table is in 3NF.

All determinants(Cust\_ID) are candidate keys, hence the table is in BCNF.

## 5. Officer

Primary key: Emp\_ID

There are no multivalued valued attributes in the table as mentioned in the ER diagram clarification. Hence, Officer table is 1NF.

All attributes depend on the Emp\_ID, hence the table is 2NF.

All attributes depend directly on Emp\_ID, hence the table is in 3NF.

All determinants(Emp\_ID) are candidate keys, hence the table is in BCNF.

## 6. Transaction

Primary key: Trans\_ID

There are no multivalued valued attributes in the table. Hence, Transaction table is 1NF.

All attributes depend on the Trans\_ID, hence the table is 2NF.

All attributes depend directly on Trans\_ID, hence the table is in 3NF.

All determinants(Trans\_ID) are candidate keys, hence the table is in BCNF.

## 7. Address

Primary key: PIN

There are no multivalued valued attributes in the table. Hence, Transaction table is 1NF.

All attributes depend on the PIN, hence the table is 2NF.

All attributes depend directly on PIN, hence the table is in 3NF.

All determinants(PIN) are candidate keys, hence the table is in BCNF.

## 8. Manager

Primary key: Emp\_ID

There are no multivalued valued attributes in the table. Hence, Transaction table is 1NF.

All attributes depend on the Emp\_ID, hence the table is 2NF.

All attributes depend directly on Emp\_ID, hence the table is in 3NF.

All determinants(Emp\_ID) are candidate keys, hence the table is in BCNF.

## 9. Interest

Primary key: Interest\_ID

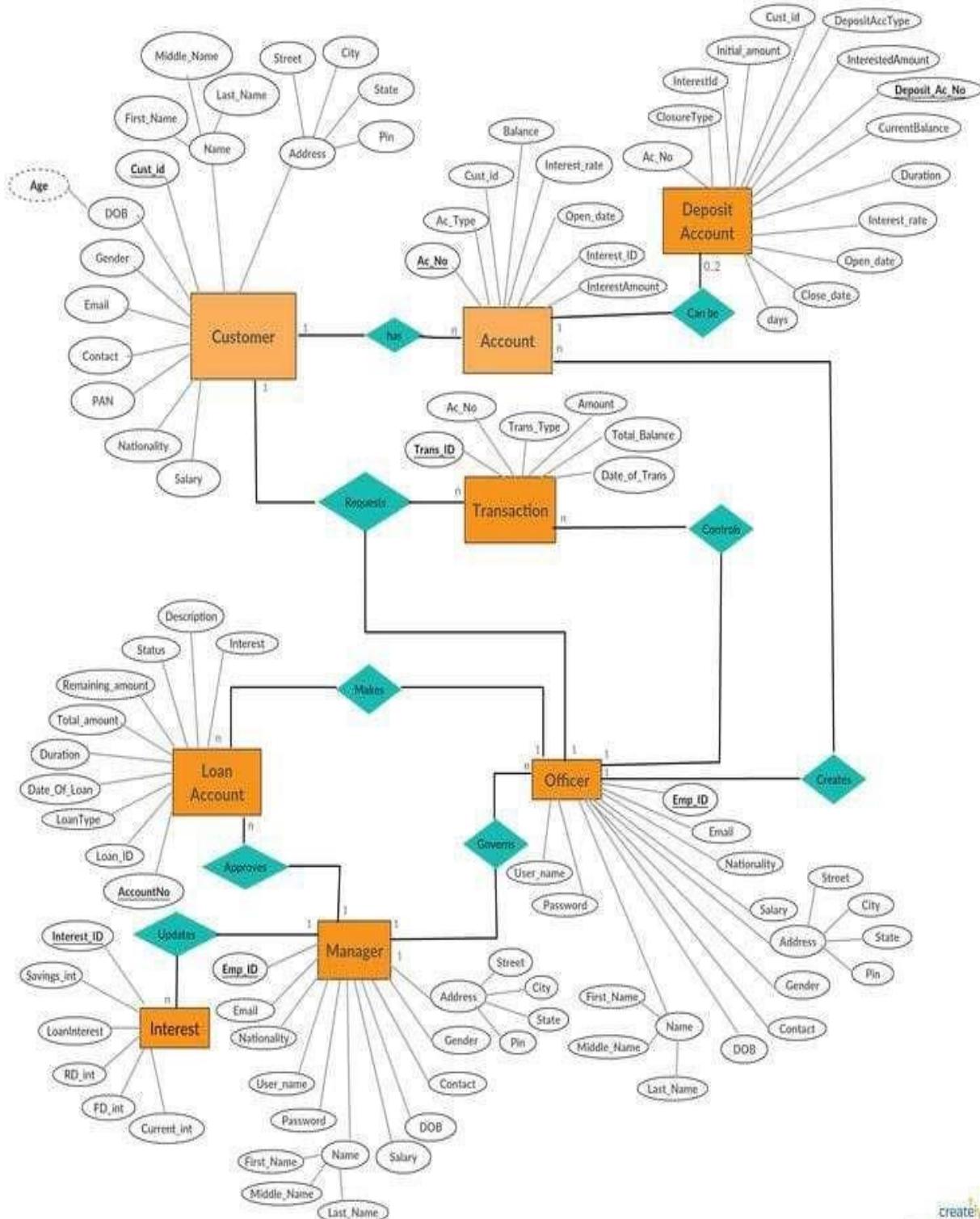
There are no multivalued valued attributes in the table. Hence, Transaction table is 1NF.

All attributes depend on the Interest\_ID, hence the table is 2NF.

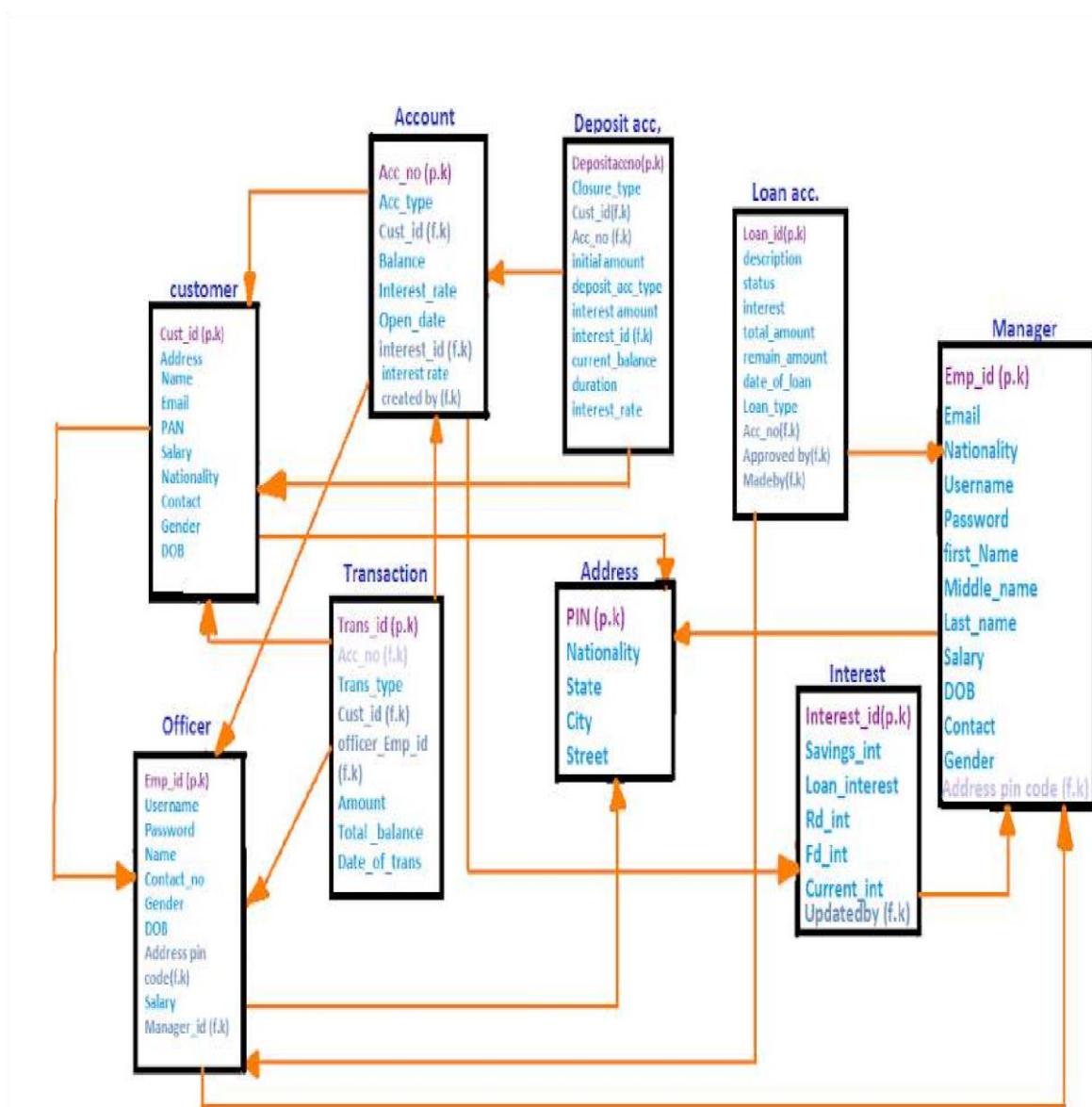
All attributes depend directly on Interest\_ID, hence the table is in 3NF.

All determinants(Interest\_ID) are candidate keys, hence the table is in BCNF.

## **ER Diagram :-**



## Relational Schema with Normalised Tables :-



## **SQL Code:**

```
--CREATION OF TABLE ADDRESS
CREATE TABLE ADDRESS(
    PIN INT PRIMARY KEY NOT NULL,
    NATIONALITY VARCHAR(20) NOT NULL, "STATE" VARCHAR(20) NOT NULL,
    CITY VARCHAR(20) NOT NULL, STREET VARCHAR(20));
DESC ADDRESS;
```

Name	Null?	Type
PIN	NOT NULL	NUMBER(38)
NATIONALITY	NOT NULL	VARCHAR2(20)
STATE	NOT NULL	VARCHAR2(20)
CITY	NOT NULL	VARCHAR2(20)
STREET		VARCHAR2(20)

```
--CREATION OF TABLE MANAGER
CREATE TABLE "MANAGER"(
    EMP_ID INT PRIMARY KEY NOT NULL,
    FIRST_NAME VARCHAR(20) NOT NULL, MIDDLE_NAME VARCHAR(20), LAST_NAME VARCHAR(20) NOT NULL,
    EMAIL VARCHAR(20), ADDRESS_PINCODE INT NOT NULL,
    SALARY DOUBLE PRECISION NOT NULL, USERNAME VARCHAR(20) NOT NULL UNIQUE , "PASSWORD" VARCHAR(20) NOT NULL UNIQUE ,
    DOB DATE, CONTACTNO INT, GENDER VARCHAR(20),
    FOREIGN KEY(ADDRESS_PINCODE) REFERENCES ADDRESS(PIN));
```

Name	Null?	Type
EMP_ID	NOT NULL	NUMBER(38)
FIRST_NAME	NOT NULL	VARCHAR2(20)
MIDDLE_NAME		VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(20)
EMAIL		VARCHAR2(20)
ADDRESS_PINCODE	NOT NULL	NUMBER(38)
SALARY	NOT NULL	FLOAT(126)
USERNAME	NOT NULL	VARCHAR2(20)
PASSWORD	NOT NULL	VARCHAR2(20)
DOB		DATE
CONTACTNO		NUMBER(38)
GENDER		VARCHAR2(20)

```
--CREATION OF TABLE MANAGER
```

```
CREATE TABLE OFFICER(
EMP_ID INT PRIMARY KEY NOT NULL,
FIRST_NAME VARCHAR(20) NOT NULL,MIDDLE_NAME VARCHAR(20),LAST_NAME VARCHAR(20) NOT NULL,
EMAIL VARCHAR(20),ADDRESS_PINCODE INT NOT NULL,
SALARY DOUBLE PRECISION NOT NULL,USERNAME VARCHAR(20)NOT NULL UNIQUE ,
"PASSWORD" VARCHAR(20)NOT NULL UNIQUE ,MANAGER_ID NUMBER NOT NULL,
DOB DATE,CONTACTno INT,GENDER VARCHAR(20),
FOREIGN KEY(ADDRESS_PINCODE) REFERENCES ADDRESS(PIN),
FOREIGN KEY(MANAGER_ID) REFERENCES "MANAGER"(EMP_ID));
DESC OFFICER;
```

Name	Null?	Type
EMP_ID	NOT NULL	NUMBER(38)
FIRST_NAME	NOT NULL	VARCHAR2(20)
MIDDLE_NAME		VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(20)
EMAIL		VARCHAR2(20)
ADDRESS_PINCODE	NOT NULL	NUMBER(38)
SALARY	NOT NULL	FLOAT(126)
USERNAME	NOT NULL	VARCHAR2(20)
PASSWORD	NOT NULL	VARCHAR2(20)
MANAGER_ID	NOT NULL	NUMBER
DOB		DATE
CONTACTNO		NUMBER(38)
GENDER		VARCHAR2(20)

--CREATION OF CUSTOMER TABLE

```

CREATE TABLE CUSTOMER(
CUST_ID INT PRIMARY KEY NOT NULL, PAN INT UNIQUE,
FIRST_NAME VARCHAR(20) NOT NULL, MIDDLE_NAME VARCHAR(20), LAST_NAME VARCHAR(20) NOT NULL,
EMAIL VARCHAR(20), ADDRESS_PINCODE INT NOT NULL, OFFICER_ID NUMBER NOT NULL,
DOB DATE, CONTACTno INT, GENDER VARCHAR(20), SALARY DOUBLE PRECISION,
FOREIGN KEY(ADDRESS_PINCODE) REFERENCES ADDRESS(PIN),
FOREIGN KEY(OFFICER_ID) REFERENCES OFFICER(EMP_ID));
DESC CUSTOMER;
```

Name	Null?	Type
CUST_ID	NOT NULL	NUMBER(38)
PAN		NUMBER(38)
FIRST_NAME	NOT NULL	VARCHAR2(20)
MIDDLE_NAME		VARCHAR2(20)
LAST_NAME	NOT NULL	VARCHAR2(20)
EMAIL		VARCHAR2(20)
ADDRESS_PINCODE	NOT NULL	NUMBER(38)
OFFICER_ID	NOT NULL	NUMBER
DOB		DATE
CONTACTNO		NUMBER(38)
GENDER		VARCHAR2(20)
SALARY		FLOAT(126)

--CREATING TABLE ACCOUNT

```
CREATE TABLE "ACCOUNT"(
Acc_no INT Primary key Not null,
Cust_id INT Not null,
Acc_type VARCHAR2(20) Not null,
Balance DOUBLE PRECISION Not null,
Open_date DATE Not null,
FOREIGN KEY(Cust_id) REFERENCES CUSTOMER(Cust_id));
DESC "ACCOUNT";
```

Name	Null?	Type
ACC_NO	NOT NULL	NUMBER(38)
CUST_ID	NOT NULL	NUMBER(38)
ACC_TYPE	NOT NULL	VARCHAR2(20)
BALANCE	NOT NULL	FLOAT(126)
OPEN_DATE	NOT NULL	DATE

```
--creating transaction table
DROP TABLE TRANSACTION;
CREATE TABLE TRANSACTION(
Trans_ID INT Primary Key Not null,
Ac_no INT Not null,Trans_type VARCHAR(20) Not null,
Cust_ID INT Not null,OfficerEmp_ID INT Not null,
Amount DOUBLE PRECISION Not null,
Total_Balance DOUBLE PRECISION Not null,
Date_of_Trans DATE Not null,
FOREIGN KEY(Ac_no) REFERENCES ACCOUNT(Acc_no));
DESCRIBE TRANSACTION;
```

Name	Null?	Type
TRANS_ID	NOT NULL	NUMBER(38)
AC_NO	NOT NULL	NUMBER(38)
TRANS_TYPE	NOT NULL	VARCHAR2(20)
CUST_ID	NOT NULL	NUMBER(38)
OFFICEREMP_ID	NOT NULL	NUMBER(38)
AMOUNT	NOT NULL	FLOAT(126)
TOTAL_BALANCE	NOT NULL	FLOAT(126)
DATE_OF_TRANS	NOT NULL	DATE

```
--creation of interest table
CREATE TABLE INTEREST(
Interest_id INT Primary key not null,
Savings_int DOUBLE PRECISION Not null,
LoanInterest DOUBLE PRECISION Not null,
Rd_int DOUBLE PRECISION Not null,
Fd_int DOUBLE PRECISION Not null,
Current_int DOUBLE PRECISION Not null,
Updatedby INT Not null,
FOREIGN KEY(Updatedby) REFERENCES MANAGER(Emp_ID));
DESC INTEREST;
```

Name	Null?	Type
INTEREST_ID	NOT NULL	NUMBER(38)
SAVINGS_INT	NOT NULL	FLOAT(126)
LOANINTEREST	NOT NULL	FLOAT(126)
RD_INT	NOT NULL	FLOAT(126)
FD_INT	NOT NULL	FLOAT(126)
CURRENT_INT	NOT NULL	FLOAT(126)
UPDATEDBY	NOT NULL	NUMBER(38)

```
--CREATION OF TABLE LOAN ACCOUNT
CREATE TABLE LOAN_ACCOUNT(
    Loan_id INT Primary key Not null, Description VARCHAR2(50) Not null,
    Status VARCHAR2(20) Not null,
    Interest INT Not null, Total_amount DOUBLE PRECISION Not null,
    Remaining_amount DOUBLE PRECISION Not null,
    Duration INT Not null, Date_of_loan DATE Not null,
    Loan_type VARCHAR(20) Not null,
    Acc_no INT Not null, ApprovedBy INT Not null,
    MadeBy INT Not null,
    FOREIGN KEY(ApprovedBy) REFERENCES MANAGER(Emp_ID),
    FOREIGN KEY(MadeBy) REFERENCES OFFICER(Emp_ID),
    FOREIGN KEY(Acc_no) REFERENCES ACCOUNT(Acc_no));
DESC LOAN_ACCOUNT;
```

Name	Null?	Type
LOAN_ID	NOT NULL	NUMBER(38)
DESCRIPTION	NOT NULL	VARCHAR2(50)
STATUS	NOT NULL	VARCHAR2(20)
INTEREST	NOT NULL	NUMBER(38)
TOTAL_AMOUNT	NOT NULL	FLOAT(126)
REMAINING_AMOUNT	NOT NULL	FLOAT(126)
DURATION	NOT NULL	NUMBER(38)
DATE_OF_LOAN	NOT NULL	DATE
LOAN_TYPE	NOT NULL	VARCHAR2(20)
ACC_NO	NOT NULL	NUMBER(38)
APPROVEDBY	NOT NULL	NUMBER(38)
MADEBY	NOT NULL	NUMBER(38)

```
--CREATION OF DEPOSIT_ACCOUNT TABLE
CREATE TABLE DEPOSIT_ACCOUNT(
    Deposit_acc_no INT Primary key Not null,
    Closure_type VARCHAR2(20) Not null,
    Cust_id INT Not null,Acc_no INT Not null,
    Initial_amount DOUBLE PRECISION Not null,
    Deposit_acc_type VARCHAR(20) Not null,
    Interest_amount INT Not null,
    Interest_id INT Not null,
    Current_balance DOUBLE PRECISION Not null,
    duration INT Not null,Open_date DATE Not null,
    Close_date DATE Not null,
    Interest_rate INT Not null,
    FOREIGN KEY(Interest_id) REFERENCES INTEREST(Interest_id),
    FOREIGN KEY(Cust_id) REFERENCES CUSTOMER(Cust_id),
    FOREIGN KEY(Acc_no) REFERENCES ACCOUNT(Acc_no));
```

**TABLE MANAGER**

Name	Null?	Type
------	-------	------

```
--INSERTING VALUES INTO TABLE MANAGER
```

```
INSERT INTO MANAGER VALUES(1212,'ANKUR','KUMAR','MISHRA','AK@gmail.com',800001,125000.00,'ak1212','90909','12-12-1980',9090909090,'M');
INSERT INTO MANAGER VALUES(1213,'AHANA','PANJA','AP@gmail.com',700008,127000.00,'ap1213','90908','12-04-1972',8990909090,'F');
INSERT INTO MANAGER VALUES(1214,'MD.','SUFİYAN','ANSARI','SA@gmail.com',211001,225000.00,'sa1212','12512','1-12-1980',9867909090,'M');
```

ACC_NO	NOT NULL NUMBER (38)
--------	----------------------

EMP_ID	FIRST_NAME	MIDDLE_NAME	LAST_NAME	EMAIL	ADDRESS_PINCODE	SALARY	USERNAME	PASSWORD
1212	ANKUR	KUMAR	MISHRA	AK@gmail.com	800001	125000	ak1212	90909
1213	AHANA		PANJA	AP@gmail.com	700008	127000	ap1213	90908
1214	MD.	SUFİYAN	ANSARI	SA@gmail.com	211001	225000	sa1212	12512

DURATION	NOT NULL NUMBER (38)
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**TABLE OFFICER**

OPEN_DATE	NOT NULL DATE
-----------	---------------

CLOSE_DATE	NOT NULL DATE
------------	---------------

```
INSERT INTO OFFICER VALUES(212,'ANUSHKA',NULL,'SINGH','AS@gmail.com',
400002,75000.00,'as212','91919',1212,'12-08-1990',9876509090,'F');
INSERT INTO OFFICER VALUES(213,'SANJANA',NULL,'KOSURU','SK@gmail.com',
800001,85000.00,'sk1212','12345',1213,'01-01-1992',9123909090,'F');
INSERT INTO OFFICER VALUES(214,'RIMPAL',NULL,'KUMARI','RK@gmail.com',
110001,85000.00,'rk1212','92309',1214,'12-12-1990',909090780,'F');
INSERT INTO OFFICER VALUES(215,'SATVIK',NULL,'SEN','ss@gmail.com',
700019,90000.00,'ss1212','987654',1212,'01-01-1995',91909090789,'M');
```

SELECT * FROM OFFICER;
------------------------

```
INSERT INTO ADDRESS VALUES(560002,'INDIA','KARANATAKA','BANGALORE','YASVANTHPUR');
```

EMP_ID	FIRST_NAME	MIDDLE_NAME	LAST_NAME	EMAIL	ADDRESS_PINCODE	SALARY	USERNAME	PASSWORD
212	ANUSHKA		SINGH	AS@gmail.com	400002	75000	aS212	91919
213	SANJANA		KOSURU	SK@gmail.com	800001	85000	sk1212	12345
214	RIMPAL		KUMARI	RK@gmail.com	110001	85000	rk1212	92309
215	SATVIK		SEN	ss@gmail.com	700019	90000	ss1212	987654

SELECT * FROM ADDRESS;
------------------------

**TABLE CUSTOMER**

PIN	NATIONALITY	STATE	CITY	STREET
700008	INDIA	WEST BENGAL	KOLKATA	D.H ROAD
700019	INDIA	WEST BENGAL	KOLKATA	MANDEVILLE GARDENS
110001	INDIA	NEW DELHI	NEW DELHI	JANPATH
400002	INDIA	MAHARASHTRA	MUMBAI	ANDHERI
560002	INDIA	KARANATAKA	BANGALORE	YASVANTHPUR
533537	UNITED KINGDOM	GREATER LONDON	LONDON	OXFORD ST.
845418	BANGLADESH	DHAKA	DHAKA	LALBAG
800001	INDIA	BIHAR	PATNA	RAJIV NAGAR
211001	INDIA	UTTAR PRADESH	ALLAHABAD	BANK ROAD

```
--INSERTING VALUES INTO CUSTOMER
INSERT INTO CUSTOMER VALUES(301,123456779,'ASHOK','KUMAR','SEN','AKS@gmail.com',
700019,212,'08-08-1995',9876543210,'M',123600.00);
INSERT INTO CUSTOMER VALUES(302,190909090,'NEEL',NULL,'NANDY','NN@gmail.com',
700008,214,'09-09-1990',9098764321,'M',450000.00);
INSERT INTO CUSTOMER VALUES(303,232323232,'ANNA',NULL,'MARIE','AM@gmail.com',
533537,215,'08-07-1997',9876538012,'F',190000.00);
INSERT INTO CUSTOMER VALUES(304,987588499,'ROBIN',NULL,'WILLIAMS','RW@gmail.com',
110001,213,'09-09-1970',12345679,'M',240000.00);
INSERT INTO CUSTOMER VALUES(305,098645813,'MD.','FARUK','ILIAS','MFI@gmail.com',
845418,215,'07-06-1996',8787878787,'M',56000.00);
SELECT * FROM CUSTOMER;
```

CUST_ID	PAN	FIRST_NAME	MIDDLE_NAME	LAST_NAME	EMAIL	ADDRESS_PINCODE	OFFICER_ID	DOB	CONTACTNO	GENDER
301	123456779	ASHOK	KUMAR	SEN	AKS@gmail.com	700019	212	08-08-95	9876543210	M
302	190909090	NEEL		NANDY	NN@gmail.com	700008	214	09-09-90	9098764321	M
303	232323232	ANNA		MARIE	AM@gmail.com	533537	215	08-07-97	9876538012	F
305	98645813	MD.	FARUK	ILIAS	MFI@gmail.com	845418	215	07-06-96	8787878787	M
304	987588499	ROBIN		WILLIAMS	RW@gmail.com	110001	213	09-09-70	12345679	M

## TABLE ACCOUNT

```
--INSERTING VALUES INTO TABLE ACCOUNT
INSERT INTO ACCOUNT VALUES(123456789,303,'SAVINGS',1900000,'12-12-2001');
INSERT INTO ACCOUNT VALUES(134567892,304,'FIXED DEPOSIT',34000,'03-03-2003');
INSERT INTO ACCOUNT VALUES(123443210,305,'RECURRING DEPOSIT',56000,'09-09-2009');
INSERT INTO ACCOUNT VALUES(198765401,301,'CURRENT',789000,'04-05-2006');
INSERT INTO ACCOUNT VALUES(345678901,302,'SALARY',450000,'09-08-1995');
SELECT * FROM ACCOUNT;
```

ACC_NO	CUST_ID	ACC_TYPE	BALANCE	OPEN_DAT
123456789	303	SAVINGS	1900000	12-12-01
134567892	304	FIXED DEPOSIT	34000	03-03-03
123443210	305	RECURRING DEPOSIT	56000	09-09-09
198765401	301	CURRENT	789000	04-05-06
345678901	302	SALARY	450000	09-08-95

**TABLE INTEREST**

```
--inserting values into interest
```

```
INSERT INTO INTEREST VALUES(345,5.60,6.60,4.50,3.40,3.45,1212);
INSERT INTO INTEREST VALUES(346,6.60,5.60,4.70,3.50,3.28,1213);
INSERT INTO INTEREST VALUES(347,5.80,5.60,4.70,3.40,3.30,1212);
SELECT * FROM INTEREST;
```

INTEREST_ID	SAVINGS_INT	LOANINTEREST	RD_INT	FD_INT	CURRENT_INT	UPDATEDBY
345	5.6	6.6	4.5	3.4	3.45	1212
346	6.6	5.6	4.7	3.5	3.28	1213
347	5.8	5.6	4.7	3.4	3.3	1212

**TABLE LOANACCOUNT**

```
--INSERTING VALUES INTO LOAN ACCOUNT
```

```
INSERT INTO LOAN_ACCOUNT VALUES(123,' ','PENDING',5600,560900,560900,120,
'12-12-2012','HOME LOAN',345678901,1214,214);
INSERT INTO LOAN_ACCOUNT VALUES(343,' ','REFERRED',6500,650900,650900,100,
'10-10-2012','CAR LOAN',123443210,1213,213);
INSERT INTO LOAN_ACCOUNT VALUES(451,' ','CREDITED',2600,560000,5600000,150,
'01-01-2010','EDUCATION LOAN',134567892,1212,212);
SELECT * FROM LOAN_ACCOUNT;
```

LOAN_ID	DESCRIPTION	STATUS	INTEREST	TOTAL_AMOUNT	REMAINING_AMOUNT	DURATION	DATE_OF_	LOAN_TYPE
123		PENDING	5600	560900	560900	120	12-12-12	HOME LOAN
343		REFERRED	6500	650900	650900	100	10-10-12	CAR LOAN
451		CREDITED	2600	560000	5600000	150	01-01-10	EDUCATION LOAN

**TABLE DEPOSITACCOUNT**

```
--INSERTING INTO DEPOSIT ACCOUNT
```

```
INSERT INTO DEPOSIT_ACCOUNT VALUES(567,'CLOSED',304,134567892,50000,
'RECURRING',2600,345,52600,120,'12-12-2012','17-03-2013',4.50);
INSERT INTO DEPOSIT_ACCOUNT VALUES(675,'CURRENT',305,123443210,60000,
'FIXED',2000,346,62000,100,'02-02-2012','11-05-2012',4.70);
SELECT * FROM DEPOSIT ACCOUNT;
```

DEPOSIT_ACC_NO	CLOSURE_TYPE	CUST_ID	ACC_NO	INITIAL_AMOUNT	DEPOSIT_ACC_TYPE
567	CLOSED	304	134567892	50000	RECURRING
675	CURRENT	305	123443210	60000	FIXED

INTEREST_AMOUNT	INTEREST_ID	CURRENT_BALANCE	DURATION	OPEN_DAT	CLOSE_DA	INTEREST_RATE
2600	345	52600	120	12-12-12	17-03-13	5
2000	346	62000	100	02-02-12	11-05-12	5

## **Conclusion:**

The Banking System a Database Project system is more efficient, fast, reliable, user friendly. Over and above the proposed system does not have any possibility of data loss during processing. This banking system project will serve as a useful approach to data base dialogue box to deposit and withdraw the money for the person. It serves as a helpful approach for the users. It provides easy way of the deposit and withdraws the money. It reduces the time taken by the user to save the money. Thus the project is the user friendly approach.