

# **Agriculture Database Management System**

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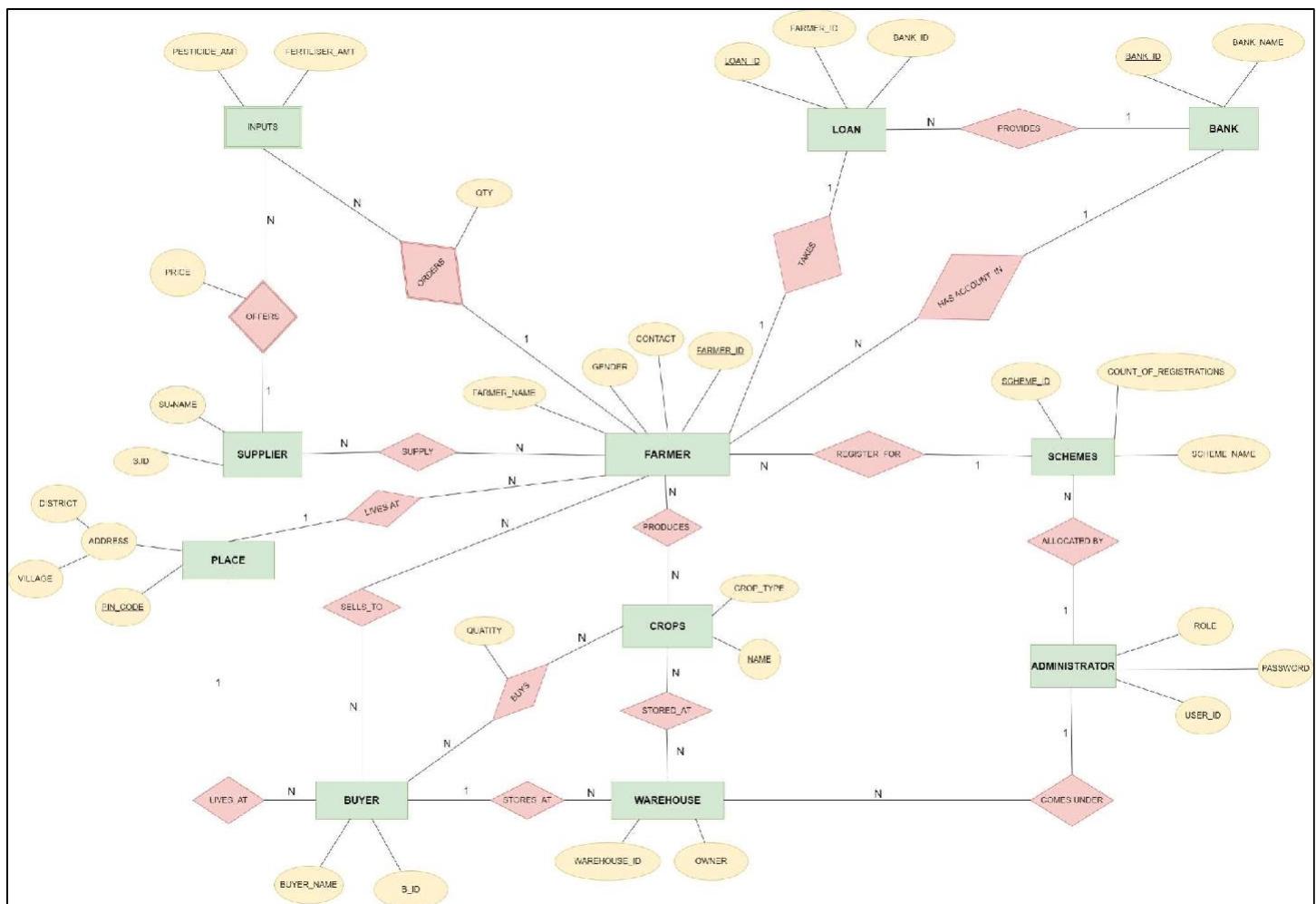
## **Problem Statement:-**

In this project, we have designed a database management system to store information about the activities pertaining to the agricultural sector. The database will contain all the information related to farming which will be available to the admin/government and their officials to make schemes as per the status of the farmer and allot benefits as per his requirements. India is the fourth largest agricultural sector in the world. This sector employs over two-thirds of the country. Not only this, agriculture is a major source of income for more than 75% of Indians. Our project aims to solve farmers' problems through proper application of Information technology, which will increase the efficiency and profit in the agribusiness activities. This database will have the farmer's personal details, schemes available for him, crops produced, inputs required by him, etc. This database management system will help the Government to monitor the status of all the farmers, whether they are small-scale, medium-scale or large-scale. Knowing about the farmers would give an overview to the government to make the agricultural budget and provide schemes that could benefit them. Farmers will be able to register for schemes as per their current condition and avail of corresponding benefits. Our database also keeps track of the farmers' bank accounts and loans to get relaxations if needed. Moreover, it also manages the quantity of crops sold and bought by them at MSP. This would make it flexible to keep a specific fixed value for crops, profitable for both farmers and the government. Finally, in order to increase efficiency and profit in agribusiness, this database could be used to collect, retrieve and analyse data to continually improve the existing system.

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## ER DIAGRAM:-



[https://drive.google.com/file/d/1cd3R95I8iQwz1qZZ-p-jB\\_ERbBFQArBs/view?usp=sharing](https://drive.google.com/file/d/1cd3R95I8iQwz1qZZ-p-jB_ERbBFQArBs/view?usp=sharing)

## **ER Model Assumptions:**

- Farmers order only fertilisers and pesticides as crop inputs for agriculture.
  - Multiple suppliers can supply the farmers with inputs and farmers can order from multiple suppliers.
  - There is a direct link between buyers and sellers( farmers ).
  - Buyers utilise government owned warehouses to keep their stock.
  - A warehouse has its owner and is managed by one of the government administrator's.
  - Multiple schemes are launched by administrators ( a government body) , but each farmer can avail facilities of only one scheme .
  - For the sake of simplicity, we have assumed that one farmer can take a maximum of only one loan from a bank.
  - Each crop is bought by multiple buyers
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## **Tables :-**

### **1. FARMER**

<b><u>ATTRIBUTE</u></b>	<b><u>DATA TYPE</u></b>	<b><u>CONSTRAINT AND CHARACTERISTICS</u></b>
FARMER_ID	NUMBER	PRIMARY KEY
FARMER_NAME	VARCHAR(20)	NOT NULL
GENDER	VARCHAR(1)	NOT NULL
CONTACT	NUMBER	NOT NULL
PIN_CODE	NUMBER	FOREIGN KEY, NOT NULL
SCHEME_ID	NUMBER	FOREIGN KEY, NOT NULL

## 2.CROPS

<u>ATTRIBUTE</u>	<u>DATA TYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
NAME	VARCHAR(30)	PRIMARY KEY
CROP_TYPE	VARCHAR(30)	NOT NULL
FARMER_ID	NUMBER	FOREIGN KEY, NOT NULL

## 3. WAREHOUSE

<u>ATTRIBUTE</u>	<u>DATA TYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
WAREHOUSE_ID	NUMBER	PRIMARY KEY
OWNER	VARCHAR(30)	NOT NULL
B_ID	NUMBER	FOREIGN KEY, NOT NULL
USER_ID	NUMBER	FOREIGN KEY, NOT NULL

## 4.SCHEME

<u>ATTRIBUTE</u>	<u>DATA TYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
SCHEME_ID	NUMBER	PRIMARY KEY
NO_OF_REGISTRATIONS	NUMBER	NOT NULL
SCHEME_NAME	VARCHAR(30)	NOT NULL
USER_ID	NUMBER	FOREIGN KEY, NOT NULL

### **5.BUYER:**

<b><u>ATTRIBUTE</u></b>	<b><u>DATATYPE</u></b>	<b><u>CONSTRAINT AND CHARACTERISTICS</u></b>
B_ID	NUMBER	PRIMARY KEY
BUYER_NAME	VARCHAR2(40)	NOT NULL
PIN CODE	NUMBER	FOREIGN KEY, NOT NULL

### **6.BUYS**

<b><u>ATTRIBUTE</u></b>	<b><u>DATATYPE</u></b>	<b><u>CONSTRAINT AND CHARACTERISTICS</u></b>
B_ID	NUMBER	FOREIGN KEY, NOT NULL
CROP_NAME	NUMBER	FOREIGN KEY, NOT NULL
QUANTITY	NUMBER	NOT NULL

### **7.PRODUCES**

<b><u>ATTRIBUTE</u></b>	<b><u>DATATYPE</u></b>	<b><u>CONSTRAINT AND CHARACTERISTICS</u></b>
FARMER_ID	NUMBER	FOREIGN KEY, NOT NULL
CROP_NAME	NUMBER	FOREIGN KEY, NOT NULL

## 8.ADMINISTRATOR :

<u>ATTRIBUTE</u>	<u>DATATYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
USER_ID	NUMBER	PRIMARY KEY
TYPE	VARCHAR2(20)	NOT NULL
PASSWORD	VARCHAR2(50)	NOT NULL

## 9.BANK

<u>ATTRIBUTES</u>	<u>DATA TYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
BANK_ID	NUMBER	PRIMARY KEY, NOT NULL
BANK_NAME	VARCHAR2(20)	NOT NULL

## 10.LOAN

<u>ATTRIBUTES</u>	<u>DATA TYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
LOAN_ID	NUMBER	PRIMARY KEY, NOT NULL
FARMER_ID	NUMBER	NOT NULL
BANK_ID	NUMBER	FORIEGN KEY, NOT NULL

## 11.INPUTS

<u>ATTRIBUTES</u>	<u>DATA TYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
PESTICIDE_AMT	NUMBER	NOT NULL
FERTILISER_AMT	NUMBER	NOT NULL
SUP_ID	NUMBER	FOREIGN KEY
PRICE	NUMBER	NOT NULL

## 12.SUPPLIER

<u>ATTRIBUTES</u>	<u>DATA TYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
SUP_ID	NUMBER	PRIMARY KEY , NOT NULL
SUP_NAME	VARCHAR2(30)	NOT NULL

## 13.PLACE

<u>ATTRIBUTES</u>	<u>DATA TYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
PINCODE	NUMBER	PRIMARY KEY , NOT NULL
VILLAGE	VARCHAR2(30)	NOT NULL
DISTRICT	VARCHAR2(30)	NOT NULL

#### 14.SUPPLY

<u>ATTRIBUTES</u>	<u>DATA TYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
SUP_ID	NUMBER	FORIEGN KEY, NOT NULL
FARMER_ID	NUMBER	FORIEGN KEY, NOT NULL

#### 15.SELLS

<u>ATTRIBUTES</u>	<u>DATA TYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
FARMER_ID	NUMBER	FORIEGN KEY, NOT NULL
B_ID	NUMBER	FORIEGN KEY, NOT NULL

#### 16.STORED-AT

<u>ATTRIBUTES</u>	<u>DATA TYPE</u>	<u>CONSTRAINT AND CHARACTERISTICS</u>
CROP_NAME	VARCHAR2(20)	FORIEGN KEY, NOT NULL
WAREHOUSE_ID	NUMBER	FORIEGN KEY, NOT NULL

---

## **Functional Dependencies and Primary keys :**

### **1. FARMER :**

FARMER\_ID -> { FARMER\_NAME , GENDER , CONTACT , PIN\_CODE , SCHEME\_ID }

Since all fields depend on the farmer\_id , ( FARMER\_ID )<sup>+</sup> -> R .

Hence , Farmer\_id is a primary key .

### **2. CROPS :**

NAME -> { CROP\_TYPE }

Since all fields depend on the NAME, ( NAME)<sup>+</sup> -> R .

Hence , NAME is a primary key .

### **3. LOANS**

LOAN\_ID-> { FARMER\_ID,,BANK\_ID }

Since all fields depend on the LOAN\_ID, ( LOAN\_ID)<sup>+</sup> -> R .

Hence , LOAN\_ID is a primary key .

### **4. BANK**

BANK\_ID-> { BANK\_NAME }

Since all fields depend on the BANK\_ID, ( BANK\_ID)<sup>+</sup> -> R .

Hence , BANK\_ID is a primary key .

### **5. SCHEMES**

SCHEME\_ID-> { SCHEME\_NAME, COUNT\_OF\_REGISTRATIONS }

Since all fields depend on the SCHEME\_ID, ( SCHEME\_ID)<sup>+</sup> -> R .

Hence , SCHEME\_ID is a primary key .

### **6. ADMINISTRATOR:**

USER\_ID-> { TYPE, PASSWORD}

Since all fields depend on the USER\_ID, i.e. ( USER\_ID)<sup>+</sup> -> R .

Hence , USER\_ID is a primary key .

### **7. SELLS RELATION**

## **8. WAREHOUSE**

WAREHOUSE\_ID -> { OWNER , BUYER\_ID }

Since all fields depend on the WAREHOUSE\_ID, ( WAREHOUSE\_ID )<sup>+</sup> -> R .

Hence , WAREHOUSE\_ID is a primary key .

## **9. STORED\_AT RELATION**

### **10. PLACE**

PIN\_CODE ->{ VILLAGE, DISTRICT}

Since all fields depend on the BANK\_ID, i.e.( PIN\_CODE)<sup>+</sup> -> R .

Hence , PIN\_CODE is a primary key .

### **11. SUPPLIER**

SUP\_ID -> { SUP\_NAME }

Since all fields depend on the SUP\_ID, ( SUP\_ID )<sup>+</sup> -> R .

Hence , SUP\_ID is a primary key .

### **12. INPUTS**

SUP\_ID-> {PESTICIDE\_AMT, FERTILISER\_AMT, PRICE}

Since all fields depend on the SUP\_ID, ( SUP\_ID )<sup>+</sup> -> R .

Hence , SUP\_ID is a primary key which is Foreign Key from SUPPLIER Relation.

### **13. SUPPLY RELATION**

### **14. PRODUCES RELATION**

### **15. BUYS RELATION**

### **16. BUYER**

B\_ID -> { BUYER\_NAME}

Since all fields depend on the B\_ID, ( B\_ID )<sup>+</sup> -> R .

Hence , B\_ID is a primary key .

---

## **Normalisations:**

### **1) FARMER**

Primary key: FARMER\_ID

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

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

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

### **2) CROPS**

Primary key: NAME

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

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

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

### **3) LOANS**

Primary key: LOAN\_ID

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) BANK**

Primary key: BANK\_ID

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

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

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

### **5) SCHEME**

Primary key: SCHEME\_ID

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

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

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

### **6) ADMINISTRATOR**

Primary key: USER\_ID

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

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

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

## **7) WAREHOUSE**

Primary key: WAREHOUSE\_ID

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

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

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

## **8) PLACE**

Primary key: PIN\_CODE

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

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

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

## **9) SUPPLIER**

Primary key: SUP\_ID

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

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

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

## **10) BUYER**

Primary key: B\_ID

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

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

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

## **11) INPUTS**

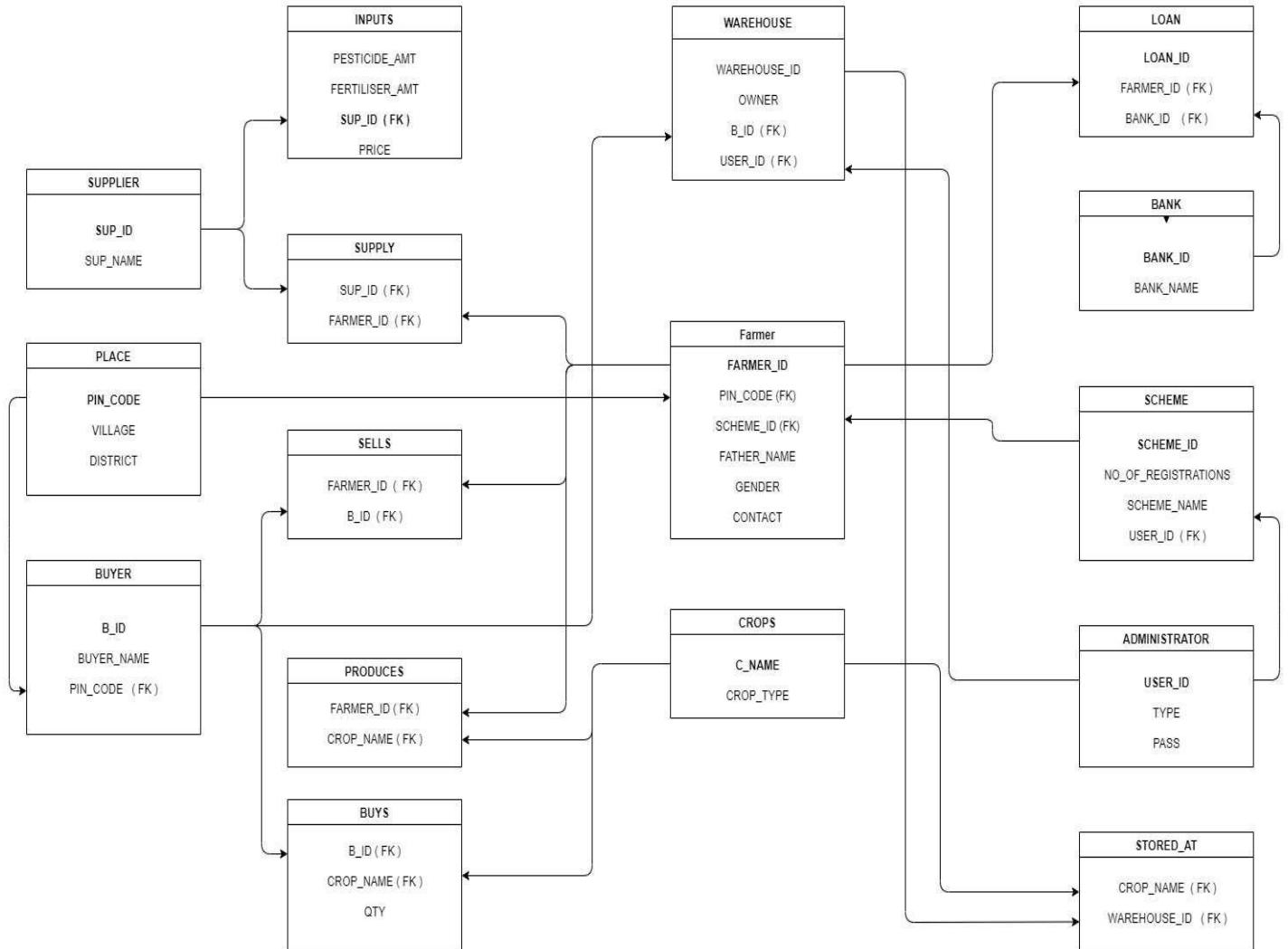
Primary key: NONE

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

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

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

## Relational Schema with Normalized tables



<https://drive.google.com/file/d/1yB4rZEWBWiQPcRZ9ES2SlqRcN8jGRd-/view?usp=sharing>

## **SQL CODE :**

### **1 -> CREATION OF TABLES:-**

```
CREATE TABLE GOVERNMENT
(
    USER_ID NUMBER,
    TYPE_ VARCHAR(30),
    PASSWORD_ VARCHAR(30),
    PRIMARY KEY(USER_ID)
);
```

```
CREATE TABLE PLACE
(
    PINCODE NUMBER,
    VILLAGE_ VARCHAR(30),
    STATE_ VARCHAR(30),
    PRIMARY KEY(PINCODE)
);
```

```
CREATE TABLE SCHEME
(
    SCHEME_ID NUMBER,
    NO_OF_REGISTRATIONS NUMBER,
    SCHEME_NAME VARCHAR(30),
    USER_ID NUMBER,
    PRIMARY KEY(SCHEME_ID),
    FOREIGN KEY (USER_ID) REFERENCES GOVERNMENT(USER_ID)
);
```

```
CREATE TABLE FARMER
(
    FARMER_ID NUMBER,
    FARMER_NAME VARCHAR(30),
    GENDER VARCHAR(30),
    CONTACT NUMBER,
```

```
PINCODE NUMBER,  
SCHEME_ID NUMBER,  
PRIMARY KEY(FARMER_ID),  
FOREIGN KEY (SCHEME_ID) REFERENCES SCHEME(SCHEME_ID)  
);
```

```
CREATE TABLE BUYER  
(  
B_ID NUMBER,  
BUYER_NAME VARCHAR(30),  
PINCODE NUMBER,  
PRIMARY KEY(B_ID),  
FOREIGN KEY (PINCODE) REFERENCES PLACE(PINCODE)  
);
```

```
CREATE TABLE CROPS  
(  
NAME_ VARCHAR(30),  
CROP_TYPE VARCHAR(30),  
B_ID NUMBER,  
FARMER_ID NUMBER,  
PRIMARY KEY(NAME_),  
FOREIGN KEY (B_ID) REFERENCES BUYER(B_ID),  
FOREIGN KEY (FARMER_ID) REFERENCES FARMER(FARMER_ID)  
);
```

```
CREATE TABLE WAREHOUSE  
(  
WAREHOUSE_ID NUMBER,  
OWNER_ VARCHAR(30),  
B_ID NUMBER,  
USER_ID NUMBER,  
PRIMARY KEY(WAREHOUSE_ID),  
FOREIGN KEY (B_ID) REFERENCES BUYER(B_ID),  
FOREIGN KEY (USER_ID) REFERENCES GOVERNMENT(USER_ID)  
);
```

```
CREATE TABLE BANK
(
BANK_ID NUMBER,
BANK_NAME VARCHAR(30),
PRIMARY KEY(BANK_ID)
);
```

```
CREATE TABLE LOAN
(
LOAN_ID NUMBER,
BORROWER_ID NUMBER,
BANK_ID NUMBER,
PRIMARY KEY(LOAN_ID),
FOREIGN KEY (BANK_ID) REFERENCES BANK(BANK_ID)
);
```

```
CREATE TABLE SUPPLIER
(
SUP_ID NUMBER,
SUP_NAME VARCHAR(30),
PRIMARY KEY(SUP_ID)
);
```

```
CREATE TABLE SUPPLY
(
SUP_ID NUMBER,
FARMER_ID NUMBER,
FOREIGN KEY (SUP_ID) REFERENCES SUPPLIER(SUP_ID),
FOREIGN KEY (FARMER_ID) REFERENCES FARMER(FARMER_ID)
);
```

```
CREATE TABLE SELLS
(
FARMER_ID NUMBER,
B_ID NUMBER,
FOREIGN KEY (B_ID) REFERENCES BUYER(B_ID),
FOREIGN KEY (FARMER_ID) REFERENCES FARMER(FARMER_ID)
);
```

```
CREATE TABLE STORED_AT
(
CROP_NAME VARCHAR(20),
WAREHOUSE_ID NUMBER,
FOREIGN KEY (CROP_NAME) REFERENCES CROPS(NAME_),
FOREIGN KEY (WAREHOUSE_ID) REFERENCES WAREHOUSE(WAREHOUSE_ID)
);
```

```
CREATE TABLE PRODUCES
(
FARMER_ID NUMBER,
CROP_NAME VARCHAR(20),
FOREIGN KEY (FARMER_ID)
    REFERENCES FARMER(FARMER_ID),
FOREIGN KEY (CROP_NAME) REFERENCES CROPS(NAME_)
);
```

```
CREATE TABLE BUYS
(
B_ID NUMBER,
CROP_NAME VARCHAR(20),
QTY NUMBER,
FOREIGN KEY (B_ID) REFERENCES BUYER(B_ID),
FOREIGN KEY (CROP_NAME) REFERENCES CROPS(NAME_)
);
```

## **2 -> INSERTION OF VALUES:-**

```
Insert into administrator values(100001,'Central' , 'itsPM0ofINDIA');
Insert into administrator values(100002,'Maharashtra state' , '293dne83DH');
Insert into administrator values(100003,'Punjab state' , '582kee48RJ');
Insert into administrator values(100004,'Delhi UT' , '572jne28RH');
Insert into administrator values(100005,'Bihar state' , '683fhi82YJ');
Insert into administrator values(100006,'Jharkhand state' , '479feu95UW');
Insert into administrator values(100007,'Kerela state' , '581fiq74IR');
Insert into administrator values(100008,'Mizoram state' , '792iex38IC');
Insert into administrator values(100009,'Odisha state' , '582ian72IS');
```

```
Insert into place values (124303 , 'Jindran' , 'Rohtak' );
Insert into place values (141104 , 'Badhel' , 'Ludhiana' );
Insert into place values (110001 , 'Delhi' , 'Delhi' );
Insert into place values (841101 , 'Saraiya' , 'Saran' );
Insert into place values (845401 , 'Garahia' , 'Motihari' );
Insert into place values (424304 , 'Balsane' , 'Dhule' );
Insert into place values (416216 , 'Karnoor' , 'Kolhapur' );
Insert into place values (825405 , 'Jitpur' , 'Hazaribagh' );
Insert into place values (829206 , 'Bhusar' , 'Latehar' );
Insert into place values (673579 , 'Pulpalli' , 'Wayanaad' );
Insert into place values (691307 , 'Edamon' , 'Kollam' );
Insert into place values (796261 , 'Phullen' , 'Aizwal' );
Insert into place values (796431 , 'Belkhai' , 'Mamit' );
Insert into place values (754200 , 'Ganapur' , 'Cuttack' );
Insert into place values (752121 , 'Sairi' , 'Puri' );
```

```
Insert into scheme values(200001, 89264 , 'PM-Kishan Scheme' , 100001 );
```

Insert into scheme values(200002, 46293 , 'Solar water pump Scheme' ,100002 );  
Insert into scheme values(200003, 57292 , 'Jan Dhan Yojna' , 100003 );  
Insert into scheme values(200004, 82664 , 'Kerala-Kishor-Fund' , 100004 );  
Insert into scheme values(200005, 54829 , 'Maharashtra Kranti' , 100005 );  
Insert into scheme values(200006, 68264 , 'Kisan Bima Yojna' , 100006 );  
Insert into scheme values(200007, 18234 , 'Kishan Samridhi' , 100007 );  
Insert into scheme values(200008, 59132 , 'Krishi udyog Yojna' , 100008 );  
Insert into scheme values(200009, 71837 , 'Krishi Vikas' , 100009 );

Insert into farmer values (900001 , 'Diljeet Singh' , 'M' , 815739679 , 124303 , 100003 );  
Insert into farmer values (900002 , 'Shivshankar Tambe' , 'M' , 817825679 , 416216 , 100002 );  
Insert into farmer values (900003 , 'Harpreet Sahu' , 'M' , 8123468264 , 141104 , 100001 );  
Insert into farmer values (900004 , 'Meiyang Dumphut' , 'M' , 6824572849 , 796261 , 100008 );  
Insert into farmer values (900005 , 'Ramadhir Singh' , 'M' , 9452758257 , 110001 , 100004 );  
Insert into farmer values (900006 , 'Ashok Jadhav' , 'M' , 9342857556 , 110001 , 100001 );  
Insert into farmer values (900007 , 'Bibhu Pandey' , 'M' , 6201768943 , 829206 , 100006 );  
Insert into farmer values (900008 , 'Mohan Lal' , 'M' , 9428537194 , 841101 , 100001 );  
Insert into farmer values (900009 , 'Ram Prasad' , 'M' , 920831958 , 845401 , 100005 );  
Insert into farmer values (900010 , 'Rempuia Baleng' , 'M' , 8351958365 , 752121 , 100009 );  
Insert into farmer values (900011 , 'Mrin Moy' , 'M' , 9027461853 , 796431 , 100008 );  
Insert into farmer values (900012 , 'Sayooj Nair' , 'M' , 9191243827 , 673579 , 100007 );  
Insert into farmer values (900013 , 'Ramalinga Swamy' , 'M' , 8204745109 , 691307 , 100001 );

Insert into farmer values (900014 , 'Tarun Yadav' , 'M' , 9829692547 , 845401 , 100005 );  
Insert into farmer values (900015 , 'Nikhil Gope' , 'M' , 9430173985 , 825405 , 100006 );  
Insert into farmer values (900016 , 'Gurkeerat Singh' , 'M' , 9036837159 , 141104 , 100003 );  
Insert into farmer values (900017 , 'Raman Das' , 'M' , 9302947518 , 754200 , 100009 );  
Insert into farmer values (900018 , 'Anil Ganguly' , 'M' , 9438194326 , 754200 , 100001 );

Insert into buyer values( 400001 , 'Raghav' , 141104 );  
Insert into buyer values( 400002 , 'Ashutosh' , 841101 );  
Insert into buyer values( 400003 , 'Deepak' , 829206 );  
Insert into buyer values( 400004 , 'Avishek' , 845401 );  
Insert into buyer values( 400005 , 'Shubhank' , 110001 );  
Insert into buyer values( 400006 , 'Kulshrestha' , 124303 );  
Insert into buyer values( 400007 , 'Krishnanshu' , 754200 );  
Insert into buyer values( 400008 , 'Chirantan' , 673579 );  
Insert into buyer values( 400009 , 'Raghvendra' , 796261 );

Insert into bank values (600001, 'NITW Bank' );  
Insert into bank values (600002, 'SBI' );  
Insert into bank values (600003, 'Central Bank' );  
Insert into bank values (600004, 'Canara Bank' );  
Insert into bank values (600005, 'Kerala Bank' );  
Insert into bank values (600006, 'Punjab National Bank' );  
Insert into bank values (600007, 'Bank of Mizo' );  
Insert into bank values (600008, 'Dena Bank' );  
Insert into bank values (600009, 'Bank of India' );

Insert into crops values ( 'Arhar' , 'pulses' );  
Insert into crops values ( 'Toor' , 'pulses' );  
Insert into crops values ( 'Rice' , 'Cereal' );  
Insert into crops values ( 'Wheat' , 'Cereals' );  
Insert into crops values ( 'Maize' , 'Cereals' );

```
Insert into crops values ( 'Jowar' , 'Cereals');
Insert into crops values ( 'Bajra' , 'Cereals' );
Insert into crops values ( 'Turmeric' , 'Spices' );
Insert into crops values ( 'Pepper' , 'Spices' );
```

```
Insert into buys values (400008, 'Arhar',2000 );
Insert into buys values (400002, 'Maize', 15000 );
Insert into buys values (400004, 'Jowar', 8000 );
Insert into buys values (400009, 'Bajra', 7000 );
Insert into buys values (400001, 'Pepper' , 4000 );
Insert into buys values (400006, 'Turmeric', 1000 );
```

```
Insert into produces values (900018, 'Arhar' );
Insert into produces values (900008, 'Maize');
Insert into produces values (900001, 'Jowar');
Insert into produces values (900002, 'Arhar' );
Insert into produces values (900007, 'Pepper' );
Insert into produces values (900005, 'Turmeric' );
```

```
Insert into warehouse values(500001, 'Deepak' , 400005 ,100008);
Insert into warehouse values(500002, 'Jamal' , 400009 ,100005);
Insert into warehouse values(500003, 'Rishab' , 400003 ,100009);
Insert into warehouse values(500004, 'Farhan' , 400008 ,100002);
Insert into warehouse values(500005, 'Naman' , 400004 ,100007);
Insert into warehouse values(500006, 'Devansh' , 400005 ,100001);
Insert into warehouse values(500007, 'Tarun' , 400009 ,100006);
Insert into warehouse values(500008, 'Aniket' , 400004 ,100003);
Insert into warehouse values(500009, 'Piyush' , 400006 ,100009);
Insert into warehouse values(500010, 'Krishna' , 400001 ,100008);
Insert into warehouse values(500011, 'Saurabh' , 400002 ,100004);
Insert into warehouse values(500012, 'Shaswat' , 400006 ,100007);
Insert into warehouse values(500013, 'Devashish' , 400008 ,100005);
Insert into warehouse values(500014, 'Dipankar' , 400007 ,100003);
Insert into warehouse values(500015, 'Manish' , 400002 ,100001);
```

```
Insert into warehouse values(500016,'Manav' , 400001 ,100006);  
Insert into warehouse values(500017,'Madhav' , 400007 ,100002);  
Insert into warehouse values(500018,'Sai' , 400003 ,100004);
```

```
Insert into loan values ( 700001, 90001, 600003 );  
Insert into loan values ( 700002, 90007, 600006 );  
Insert into loan values ( 700003, 90009, 600001 );  
Insert into loan values ( 700004, 90002, 600007 );  
Insert into loan values ( 700005, 90005, 600002 );  
Insert into loan values ( 700006, 90008, 600009 );  
Insert into loan values ( 700007, 90003, 600004 );  
Insert into loan values ( 700008, 90006, 600008 );  
Insert into loan values ( 700009, 90004, 600005 );
```

```
Insert into supplier values (400001,'Ashish' );  
Insert into supplier values (400002,'Rahul' );  
Insert into supplier values (400003,'Ranjan' );  
Insert into supplier values (400004,'Aman' );  
Insert into supplier values (400005,'Raushan' );  
Insert into supplier values (400006,'Prateek' );  
Insert into supplier values (400007,'Sahil' );  
Insert into supplier values (400008,'Farhan' );  
Insert into supplier values (400009,'Sukhbir' );
```

```
Insert into supply values (400001, 90007 );  
Insert into supply values (400002, 90009 );  
Insert into supply values (400003, 90005 );  
Insert into supply values (400004, 90008 );  
Insert into supply values (400005, 90003 );  
Insert into supply values (400006, 90006 );  
Insert into supply values (400007, 90004 );  
Insert into supply values (400008, 90001 );
```

```
Insert into supply values (400009, 90002 );
```

```
Insert into sells values ( 90001 , 400009);
```

```
Insert into sells values ( 90002 , 400008);
```

```
Insert into sells values ( 90003 , 400007);
```

```
Insert into sells values ( 90004 , 400006);
```

```
Insert into sells values ( 90005 , 400005);
```

```
Insert into sells values ( 90006 , 400004);
```

```
Insert into sells values ( 90007 , 400003);
```

```
Insert into sells values ( 90008 , 400002);
```

```
Insert into sells values ( 90009 , 400001);
```

```
Insert into stored_at values( 'arhar' , 500006 );
```

```
Insert into stored_at values( 'Jowar' , 500001 );
```

```
Insert into stored_at values( 'Rice' , 500002 );
```

```
Insert into stored_at values( 'Turmeric' , 500007 );
```

```
Insert into stored_at values( 'Wheat' , 500009 );
```

```
Insert into stored_at values( 'Toor' , 500003 );
```

```
Insert into stored_at values( 'Pepper' , 500008 );
```

```
Insert into stored_at values( 'Maize' , 500004 );
```

```
Insert into stored_at values( 'Arhar' , 500005 );
```

---

```
Insert into inputs values ( 573 , 682 , 400001 , 4827);
```

```
Insert into inputs values ( 324 , 588 , 400002 , 5479);
```

```
Insert into inputs values ( 841 , 764 , 400003 , 3685);
```

```
Insert into inputs values ( 575 , 489 , 400004 , 5116);
```

```
Insert into inputs values ( 265 , 342 , 400005 , 7090);
```

```
Insert into inputs values ( 648 , 538 , 400006 , 3767);
```

```
Insert into inputs values ( 492 , 500 , 400007 , 6452);
```

```
Insert into inputs values ( 632 , 730 , 400008 , 4753);
```

```
Insert into inputs values ( 692 , 650 , 400009 , 5388);
```

