

Zach Weldon

Portfolio

DB Design/ Analysis

12/04/2023

Agriculture Database:

Description:

This is an agriculture management database for a farming company that owns subsidiary farms around Mississippi. This 3NF relational database connects farms, employees of those farms, the land used for farming, the equipment used at each farm, the produce of each farm, the processing plant for each farm, the job of each employee, along with customers, orders, invoices, and payments. The goal of this database is to support the management and operation of agricultural activities, from tracking land and equipment, managing farm employees and their job roles, and tracking orders invoices and payments.

UML Diagram:



Tables:

Primary Keys are indicated by Yellow

Foreign Keys are indicated by Green

Employee--

Employees	Fname	Lname	SSN	Birth_Year	Birth_Month	Birth_Date	Address	Zipcode	Salary	Farm#	JobID
insert into Employee values(	Amelia	Smith		123456789	1980	Jan	17 123 Elm Street	38801	50000	70-111	605-124
insert into Employee values(	Jackson	Anderson		135792468	1975	Jan	15 456 Oak Avenue	38634	55000	70-112	605-124
insert into Employee values(	Olivia	Johnson		112341234	2000	Mar	10 789 Birch Lane	38643	70000	70-113	605-131
insert into Employee values(	Liam	Williams		187947302	1985	Nov	5 321 Pine Road	38644	100000	70-114	605-132
insert into Employee values(	Sophia	Brown		492937458	1992	Dec	30 567 Cedar Street	38645	70000	70-115	605-133
insert into Employee values(	Ethan	Jones		974592164	1995	Oct	25 890 Maple Drive	38646	85000	70-116	605-123
insert into Employee values(	Ava	Davis		165834592	1970	Apr	5 234 Willow Lane	38643	200000	70-117	605-123
insert into Employee values(	Noah	Martin		374484958	1985	Aug	3 678 Birch Road	38644	75000	70-118	605-123
insert into Employee values(	Isabella	Wilson		479520948	1997	May	5 123 Pine Avenue	38645	50000	70-119	605-123
insert into Employee values(	Mason	Taylor		389452954	1989	Jun	8 456 Oak Lane	38646	65000	70-120	605-123
insert into Employee values(	Arlen	Bales		324495555	1970	Jan	5 423 Secret Row	38647	67000	70-121	605-125
insert into Employee values(	Ahmann	Jardir		123999000	1971	Jan	3 3221 Road Dr	38648	80000	70-111	605-126
insert into Employee values(	Gared	Cutter		845623369	1972	Mar	5 2398 House St	38649	99000	70-112	605-127
insert into Employee values(	Leesha	Paper		452102356	1973	Nov	2 111 Oxford Way	38801	105000	70-113	605-128
insert into Employee values(	Rojer	Halfgrip		859467232	1974	Dec	6 928 6th St	38801	180000	70-114	605-129

ZipCode--

Zipcode	City	State
38801	Tupelo	MS
38634	Yazoo	MS
38643	Clinton	MS
38644	Baldwyn	MS
38645	New Albany	MS
38646	Corinth	MS
38647	Batesville	MS
38648	Memphis	TEN
38649	Ecru	MS
38651	Olive Branch	MS
38655	Oxford	MS

Produce_type--

P_ID	P_name	Type	maturity_time_minimum	maturity_time_max
20-101	Poultry	Animal	6	12
20-102	Soybeans	Plant	14	21
20-103	Corn	Plant	9	14
20-104	Sweet Potatoes	Plant	12	17
20-105	Rice	Plant	12	24
20-106	Peanuts	Plant	19	22
20-107	wheat	Plant	16	34
20-108	Hogs	Animal	20	24
20-109	Catfish	Animal	72	96
20-110	Cattle	Animal	72	88
20-111	Hay	Plant	30	45

Processing_Plant---

ProcessID	Process_name	Process_Address	zipcode	Processing_Phone	Avg_process_price
30-101	Big-Chucks	345 Country Road 33	38801	662-351-1222	10000
30-102	Fletchers	123 Apple Blvd	38644	662-351-1223	50000
30-103	Simones	293 Miller Circle	38643	662-351-1224	1000
30-104	wylies	854 Manchester St	38644	662-351-1225	2000
30-105	millers	4758 4th Street	38645	662-351-1226	4000
30-106	carters	909 Winchester Blvd	38646	662-351-1227	8000
30-107	Bakers	717 Cyprus Lane	38647	662-351-1228	9000
30-108	Meat House	414 Messenger Rd	38648	662-351-1229	7000
30-109	Pascals	812 Fellow Ln	38649	662-351-1230	5000
30-110	Walters	456 Peyton Way	38651	662-351-1231	4000
30-111	Whits	18 Rodgers Ct	38655	662-351-1232	3000

Equipment—

Equip#	Equip_name	Purch Price	Condition	Farm#
11-555	Tractor	107000	Good	80-1111
11-556	Harvester	56000	Good	80-1111
11-557	Mower	30000	Good	80-1114
11-558	Combine	40000	Good	80-1115
11-559	Planter	60000	Good	80-1116
11-560	Sprayer	57000	Good	80-1117
11-561	Atv	50000	Bad	80-1118
11-562	Plow	67000	Good	80-1118
11-563	Baler	35000	Mid	80-1120
11-564	Nets	10000	Good	80-1121
11-565	Wagon	70500	Mid	80-1121
11-566	Tractor	86000	Good	80-1123
11-567	Harvester	74000	Mid	80-1124
11-568	Mower	60000	Good	80-1126
11-569	Combine	10000	Mid	80-1126
11-570	Planter	80000	Good	80-1127
11-571	Sprayer	50000	Bad	80-1128
11-572	Atv	30000	Bad	80-1129

Farm—

Farm#	Considerations	LandID	Process_ID	M_Fname	M_Lname	Farm_Phone
70-111	Uneven-Terrain	8300-0001	30-101	Ethan	Jones	314-698-1322
70-112	Dry	8300-0002	30-102	Ava	Davis	314-698-1323
70-113	Road washed	8300-0003	30-103	Noah	Martin	314-698-1324
70-114	Floods	8300-0004	30-104	Isabella	Wilson	314-698-1325
70-115	Wet	8300-0005	30-105	Mason	Taylor	314-698-1326
70-116	Uneven-Terrain	8300-0006	30-106	Ethan	Jones	314-698-1327
70-117	Dry	8300-0007	30-107	Ava	Davis	314-698-1328
70-118	Road washed	8300-0008	30-108	Noah	Martin	314-698-1329
70-119	Floods	8300-0009	30-109	Isabella	Wilson	314-698-1330
70-120	Wet	8300-0010	30-110	Mason	Taylor	314-698-1331
70-121	Rocky	8300-0011	30-111	Ethan	Jones	314-698-1332

Land—

LandID	Address	ZipCode	Acres	Produce_Id	last_harvest
8300-0001	123 Elm Street	38801	10	20-101	1/15/2023
8300-0002	456 Oak Avenue	38634	20	20-102	3/8/2023
8300-0003	789 Birch Lane	38643	40	20-103	5/20/2023
8300-0004	321 Pine Road	38644	100	20-104	7/12/2023
8300-0005	567 Cedar Street	38645	60	20-105	8/15/2023
8300-0006	890 Weldon Ln	38646	30	20-106	5/12/2023
8300-0007	560 Willbrook	38647	60	20-107	6/12/2023
8300-0008	845 County road 2	38648	80	20-108	8/14/2023
8300-0009	100 Julia Ln	38649	900	20-109	10/20/2023
8300-0010	2000 Cedar Point	38651	70	20-110	3/12/2023
8300-0011	540 Goggins Dr	38655	300	20-111	7/18/2023

Job—

JobID	Job_Title	Dutys	position_max	salary_max
605-123	Manager	Manage the Farm	5	100000
605-124	hand	Assist in all matter	10	40000
605-125	Tractor Operator	Drive Tractor	4	60000
605-126	Mower Operator	Operate the mower	6	50000
605-127	Spraying Hand	Spray Fields	5	55000
605-128	Harvest Hand	Assist in harvesting	10	50000
605-129	Plow Operator	Operate the Plow	4	60000
605-130	Repairman	Genral repairs	1	70000
605-131	Combine Operator	Operate the combine	5	80000
605-132	Cowboy	Cowboying	6	40000
605-133	Planter	Plants seed	7	30000

Orders---

Orders:	Order#	Order_Date	Processing_Cost	Order_Pickup_Date	QTY
insert into Orders values(	90-1001	11/6/2023	500	11/8/2023	100 lbs
insert into Orders values(	90-1002	11/5/2023	250	11/8/2023	200 lbs
insert into Orders values(	90-1003	11/5/2023	200	11/8/2023	500 lb
insert into Orders values(	90-1004	11/4/2023	150	11/7/2023	1 ton
insert into Orders values(	90-1005	11/4/2023	300	11/7/2023	2 tons
insert into Orders values(	90-1006	10/25/2023	350	11/3/2023	200 lbs
insert into Orders values(	90-1007	10/25/2023	150	11/3/2023	500 lbs
insert into Orders values(	90-1008	10/25/2023	250	11/4/2023	300 lbs
insert into Orders values(	90-1009	10/25/2023	180	11/4/2023	400 lbs
insert into Orders values(	90-1010	10/30/2023	600	11/6/2023	200 lbs
insert into Orders values(	90-1011	10/30/2023	450	11/5/2023	100 lbs
insert into Orders values(	90-1012	10/30/2023	250	11/2/2023	200 lbs

Customers---

Customers:	Cust_Id	Cust_name	address	zip	phone
insert into Customers values(	1-001	Kroger	123 Hemingway dr	38801	312-312-312
insert into Customers values(	1-002	Walmart	184 West Main St	38634	312-312-313
insert into Customers values(	1-003	Whole Foods	684 Neby rd	38643	312-312-314
insert into Customers values(	1-004	Piggly Wiggly	589 Longview Rd	38644	312-312-315
insert into Customers values(	1-005	Cash Saver	326 Antler	38645	312-312-316
insert into Customers values(	1-006	Family Market	478 Medical Dr	38646	312-312-317
insert into Customers values(	1-007	Meat Bros	387 Bonnie Dr	38647	312-312-318
insert into Customers values(	1-008	Pappys	158 County Rd 318	38648	312-312-319
insert into Customers values(	1-009	Myrtles	458 Main St	38649	312-312-320
insert into Customers values(	1-010	Johns Grocer	678 Blues Rd	38651	312-312-321

Invoice---

Invoice:	Invoice_Id	Cust_Id	Order#	Process_Id	issued	ammount_Due
insert into Invoice values(	2-1001	1-001	90-1001	30-101	11/9/2023	1000
insert into Invoice values(	2-1002	1-002	90-1002	30-102	11/8/2023	2000
insert into Invoice values(	2-1003	1-003	90-1003	30-103	11/7/2023	3000
insert into Invoice values(	2-1004	1-004	90-1004	30-104	11/7/2023	1000
insert into Invoice values(	2-1005	1-005	90-1005	30-105	11/7/2023	2000
insert into Invoice values(	2-1006	1-006	90-1006	30-106	11/7/2023	500
insert into Invoice values(	2-1007	1-007	90-1007	30-107	11/3/2023	200
insert into Invoice values(	2-1008	1-008	90-1008	30-108	11/3/2023	1400
insert into Invoice values(	2-1009	1-009	90-1009	30-109	11/4/2023	10000
insert into Invoice values(	2-1010	1-010	90-1010	30-110	11/4/2023	20000
insert into Invoice values(	2-1011	1-001	90-1011	30-111	11/6/2023	25000
insert into Invoice values(	2-1012	1-002	90-1012	30-101	11/5/2023	15000

Payments---

Payments:	payment_Id	Invoice#	ammount	date	method
insert into Payments values(	3-1001	2-1001	1000	45242	card
insert into Payments values(	3-1002	2-1002	2000	44939	check
insert into Payments values(	3-1003	2-1003	3000	44940	cash
insert into Payments values(	3-1004	2-1004	1000	44941	card
insert into Payments values(	3-1005	2-1005	2000	44942	check
insert into Payments values(	3-1006	2-1006	500	44943	cash
insert into Payments values(	3-1007	2-1007	200	44944	check
insert into Payments values(	3-1008	2-1008	1400	44945	check
insert into Payments values(	3-1009	2-1009	10000	44946	direct deposit
insert into Payments values(	3-1010	2-1010	20000	44947	cash

-----SQL Transformation-----

Drop Tables:

DROP TABLE Payments;

DROP TABLE Invoice;

DROP TABLE Customers;

DROP TABLE Orders;

DROP TABLE Employee;

DROP TABLE Equipment;

DROP TABLE Farm;

DROP TABLE Land;

DROP TABLE Processing_Plant;

DROP TABLE Produce;

DROP TABLE Job;

DROP TABLE ZipCode;

Create Tables:

Create table ZipCode

```
(Zipcode VARCHAR(5) NOT NULL, City VARCHAR(20), State VARCHAR(3),  
PRIMARY KEY (Zipcode));
```

```
insert into ZipCode values('38801','Tupelo','MS');  
insert into ZipCode values('38634','Yazoo','MS');  
insert into ZipCode values('38643','Clinton','MS');  
insert into ZipCode values('38644','Baldwyn','MS');  
insert into ZipCode values('38645','New Albany','MS');  
insert into ZipCode values('38646','Corinth','MS');  
insert into ZipCode values('38647','Batesville','MS');  
insert into ZipCode values('38648','Memphis','TEN');  
insert into ZipCode values('38649','Ecru','MS');  
insert into ZipCode values('38651','Olive Branch','MS');  
insert into ZipCode values('38655','Oxford','MS');  
commit;
```

create table Job

```
(JobID VARCHAR(7) NOT NULL, job_Title VARCHAR(30), Dutys VARCHAR(80),  
position_Max INT, Pmax_Salary INT,  
PRIMARY KEY (JobID));
```

```
insert into Job values('605-123','Manager','Manage the Farm','5','100000');  
insert into Job values('605-124','hand','Assist in all matter','10','40000');  
insert into Job values('605-125','Tractor Opperator','Drive Tractor','4','60000');  
insert into Job values('605-126','Mower Opperator','Operate the mower','6','50000');
```

```
insert into Job values('605-127','Spraying Hand','Spray Fields','5','55000');  
insert into Job values('605-128','Harvest Hand','Assist in harvesting','10','50000');  
insert into Job values('605-129','Plow Operator','Operate the Plow','4','60000');  
insert into Job values('605-130','Repairman','Genral repairs','1','70000');  
insert into Job values('605-131','Combine Operator','Operate the combine','5','80000');  
insert into Job values('605-132','Cowboy','Cowboying','6','40000');  
insert into Job values('605-133','Planter','Plants seed ','7','30000');  
commit;
```

Create Table Produce

```
(P_ID VARCHAR(6) NOT NULL, P_name VARCHAR(20), Type Varchar(12),  
Maturity_time_minimum INT, Maturity_time_max INT,  
PRIMARY KEY (P_ID));
```

```
insert into Produce values('20-103','Corn','Plant',9,14);  
insert into Produce values('20-102','Soybeans','Plant',14,21);  
insert into Produce values('20-101','Poultry ','Animal',6,12);  
insert into Produce values('20-104','Sweet Potatoes','Plant',12,17);  
insert into Produce values('20-105','Rice','Plant',12,24);  
insert into Produce values('20-106','Peanuts','Plant',19,22);  
insert into Produce values('20-107','wheat','Plant',16,34);  
insert into Produce values('20-108','Hogs','Animal',20,24);  
insert into Produce values('20-109','Catfish','Animal',72,96);  
insert into Produce values('20-110','Cattle','Animal',72,88);  
insert into Produce values('20-111','Hay','Plant',30,45);  
Commit;
```

Create table Processing_Plant

```
(ProcessID VARCHAR(6) NOT NULL, P_name Varchar(25), P_Address VARCHAR(30),
```



```
zipcode VARCHAR(5), P_Phone VARCHAR(12), AVG_process_price INT,  
PRIMARY KEY(ProcessID), FOREIGN KEY (zipcode) REFERENCES ZipCode(Zipcode));
```

```
insert into Processing_Plant values('30-101','Big-Chucks','345 Country Road 33','38801','662-351-  
1222','10000');  
insert into Processing_Plant values('30-102','Fletchers','123 Apple Blvd','38644','662-351-1223','50000');  
insert into Processing_Plant values('30-103','Simones','293 Miller Circle','38643','662-351-1224','1000');  
insert into Processing_Plant values('30-104','wylies','854 Manchester St','38644','662-351-1225','2000');  
insert into Processing_Plant values('30-105','millers','4758 4th Street','38645','662-351-1226','4000');  
insert into Processing_Plant values('30-106','carters','909 Winchester Blvd','38646','662-351-  
1227','8000');  
insert into Processing_Plant values('30-107','Bakers','717 Cyprus Lane','38647','662-351-1228','9000');  
insert into Processing_Plant values('30-108','Meat House','414 Messenger Rd','38648','662-351-  
1229','7000');  
insert into Processing_Plant values('30-109','Pascals','812 Fellow Ln','38649','662-351-1230','5000');  
insert into Processing_Plant values('30-110','Walters','456 Peyton Way','38651','662-351-1231','4000');  
insert into Processing_Plant values('30-111','Whits','18 Rodgers Ct','38655','662-351-1232','3000');  
commit;
```

Create table Land

```
(LandID VARCHAR(9) NOT NULL, Address VARCHAR(20), zipcode VARCHAR(5),  
Acres INT, Produce_Id VARCHAR(6),  
PRIMARY KEY (LandID), FOREIGN KEY (zipcode) REFERENCES ZipCode(Zipcode),  
FOREIGN KEY (Produce_Id) REFERENCES Produce(P_ID));
```

```
insert into Land values('8300-0001','123 Elm Street','38801','10','20-101');  
insert into Land values('8300-0002','456 Oak Avenue','38634','20','20-102');  
insert into Land values('8300-0003','789 Birch Lane','38643','40','20-103');  
insert into Land values('8300-0004','321 Pine Road','38644','100','20-104');  
insert into Land values('8300-0005','567 Cedar Street','38645','60','20-105');
```

```
insert into Land values('8300-0006','890 Weldon Ln','38646','30','20-106');  
insert into Land values('8300-0007','560 Willbrook','38647','60','20-107');  
insert into Land values('8300-0008','845 County road 2','38648','80','20-108');  
insert into Land values('8300-0009','100 Julia Ln','38649','900','20-109');  
insert into Land values('8300-0010','2000 Cedar Point','38651','70','20-110');  
insert into Land values('8300-0011','540 Goggins Dr','38655','300','20-111');  
  
commit;
```

```
create table Farm
```

```
(Farm# VARCHAR(6) NOT NULL, Considerations VARCHAR(100), LandID VARCHAR(9),  
Process_ID VARCHAR(6), M_Fname Char(15), M_Lname Char(15), Farm_Phone VARCHAR(12),  
PRIMARY KEY (Farm#), FOREIGN KEY (LandID) REFERENCES Land(LandID),  
FOREIGN KEY (Process_ID) REFERENCES Processing_Plant(ProcessID));
```

```
insert into Farm values('70-111','Uneven-Terrain','8300-0001','30-101','Ethan ','Jones','314-698-1322');  
insert into Farm values('70-112','Dry','8300-0002','30-102','Ava','Davis','314-698-1323');  
insert into Farm values('70-113','Road washed','8300-0003','30-103','Noah','Martin','314-698-1324');  
insert into Farm values('70-114','Floods','8300-0004','30-104','Isabella','Wilson','314-698-1325');  
insert into Farm values('70-115','Wet','8300-0005','30-105','Mason','Taylor','314-698-1326');  
insert into Farm values('70-116','Uneven-Terrain','8300-0006','30-106','Ethan ','Jones','314-698-1327');  
insert into Farm values('70-117','Dry','8300-0007','30-107','Ava','Davis','314-698-1328');  
insert into Farm values('70-118','Road washed','8300-0008','30-108','Noah','Martin','314-698-1329');  
insert into Farm values('70-119','Floods','8300-0009','30-109','Isabella','Wilson','314-698-1330');  
insert into Farm values('70-120','Wet','8300-0010','30-110','Mason','Taylor','314-698-1331');  
insert into Farm values('70-121','Rocky','8300-0011','30-111','Ethan ','Jones','314-698-1332');  
  
commit;
```

```
create table Equipment
```

(Equip# VARCHAR(6) NOT NULL, Equip_Name VARCHAR(20), Purchase_Price INT, Condition Char(9),
Farm# VARCHAR(6),

PRIMARY KEY (Equip#), Foreign Key (Farm#) References Farm(Farm#));

```
insert into Equipment values('11-555','Tractor','107000','Good','70-111');
insert into Equipment values('11-556','Harvester','56000','Good','70-112');
insert into Equipment values('11-557','Mower','30000','Good','70-113');
insert into Equipment values('11-558','Combine','40000','Good','70-114');
insert into Equipment values('11-559','Planter','60000','Good','70-111');
insert into Equipment values('11-560','Sprayer','57000','Good','70-112');
insert into Equipment values('11-561','Atv','50000','Bad','70-113');
insert into Equipment values('11-562','Plow','67000','Good','70-114');
insert into Equipment values('11-563','Baler','35000','Mid','70-115');
insert into Equipment values('11-564','Nets','10000','Good','70-116');
insert into Equipment values('11-565','Wagon','70500','Mid','70-117');
insert into Equipment values('11-566','Tractor','86000','Good','70-118');
insert into Equipment values('11-567','Harvester','74000','Mid','70-119');
insert into Equipment values('11-568','Mower','60000','Good','70-120');
insert into Equipment values('11-569','Combine','10000','Mid','70-121');
insert into Equipment values('11-570','Planter','80000','Good','70-115');
insert into Equipment values('11-571','Sprayer','50000','Bad','70-116');
insert into Equipment values('11-572','Atv','30000','Bad','70-117');
commit;
```

CREATE TABLE Employee

(Fname VARCHAR(10),Lname VARCHAR(20),SSN VARCHAR(9) NOT NULL,
Birth_Year VARCHAR(4),Birth_Month VARCHAR(3),Birth_Date VARCHAR(2),
Address Varchar(16),zipcode VARCHAR(6),Salary VARCHAR(8),
Farm# VARCHAR(6), JobID VARCHAR(7),

PRIMARY KEY (SSN),
FOREIGN KEY (zipcode) References ZIPCODE(Zipcode),
FOREIGN KEY (Farm#) REFERENCES Farm(Farm#),
FOREIGN KEY (JobID) REFERENCES Job(JobID));

insert into Employee values('Amelia','Smith','123456789','1980','Jan','17','123 Elm Street','38655','50000','70-111','605-124');

insert into Employee values('Jackson','Anderson','135792468','1975','Jan','15','456 Oak Avenue','38655','55000','70-112','605-124');

insert into Employee values('Olivia','Johnson','112341234','2000','Mar','10','789 Birch Lane','38655','70000','70-113','605-131');

insert into Employee values('Liam','Williams','187947302','1985','Nov','5','321 Pine Road','38655','100000','70-114','605-132');

insert into Employee values('Sophia','Brown','492937458','1992','Dec','30','567 Cedar Street','38801','70000','70-115','605-133');

insert into Employee values('Ethan','Jones','974592164','1995','Oct','25','890 Maple Drive','38801','85000','70-116','605-123');

insert into Employee values('Ava','Davis','165834592','1970','Apr','5','234 Willow Lane','38644','200000','70-117','605-123');

insert into Employee values('Noah','Martin','374484958','1985','Aug','3','678 Birch Road','38643','75000','70-118','605-123');

insert into Employee values('Isabella','Wilson','479520948','1997','May','5','123 Pine Avenue','38644','50000','70-119','605-123');

insert into Employee values('Mason','Taylor','389452954','1989','Jun','8','456 Oak Lane','38645','65000','70-120','605-123');

insert into Employee values('Arlen','Bales','324495555','1970','Jan','5','423 Secret Row','38646','67000','70-121','605-125');

insert into Employee values('Ahmann','Jardir','123999000','1971','Jan','3','3221 Road Dr','38647','80000','70-111','605-126');

insert into Employee values('Gared','Cutter','845623369','1972','Mar','5','2398 House St','38648','99000','70-112','605-127');

insert into Employee values('Leesha','Paper','452102356','1973','Nov','2','111 Oxford Way','38649','105000','70-113','605-128');

```
insert into Employee values('Rojer','Halfgrip','859467232','1974','Dec','6','928 6th  
St','38651','180000','70-114','605-129');
```

```
commit;
```

```
CREATE TABLE Orders (
```

```
    order_Id VARCHAR(7) NOT NULL,
```

```
    order_Date DATE,
```

```
    processing_Cost Varchar(10),
```

```
    delivery_Date DATE,
```

```
    order_Weight VARCHAR(20),
```

```
    PRIMARY KEY (order_Id)
```

```
);
```

```
insert into Orders values('90-1002', to_date('11/5/2023','mm/dd/yyyy'),'250',  
to_date('11/8/2023','mm/dd/yyyy'),'200 lbs');
```

```
insert into Orders values('90-1001', to_date('11/6/2023','mm/dd/yyyy'),'500',  
to_date('11/8/2023','mm/dd/yyyy'),'100 lbs');
```

```
insert into Orders values('90-1003', to_date('11/5/2023','mm/dd/yyyy'),'200',  
to_date('11/8/2023','mm/dd/yyyy'),'500 lb');
```

```
insert into Orders values('90-1004', to_date('11/4/2023','mm/dd/yyyy'),'150',  
to_date('11/7/2018','mm/dd/yyyy'),'1 ton');
```

```
insert into Orders values('90-1005', to_date('11/4/2023','mm/dd/yyyy'),'300',  
to_date('11/7/2018','mm/dd/yyyy'),'2 tons');
```

```
insert into Orders values('90-1006', to_date('10/25/2023','mm/dd/yyyy'),'350',  
to_date('11/3/2018','mm/dd/yyyy'),'200 lbs');
```

```
insert into Orders values('90-1007', to_date('10/25/2023','mm/dd/yyyy'),'150',  
to_date('11/3/2018','mm/dd/yyyy'),'500 lbs');
```

```
insert into Orders values('90-1008', to_date('10/25/2023','mm/dd/yyyy'),'250',  
to_date('11/4/2018','mm/dd/yyyy'),'300 lbs');
```

```
insert into Orders values('90-1009', to_date('10/25/2023','mm/dd/yyyy'),'180',  
to_date('11/4/2018','mm/dd/yyyy'),'400 lbs');
```

```
insert into Orders values('90-1010', to_date('10/30/2023','mm/dd/yyyy'),'600',  
to_date('11/6/2018','mm/dd/yyyy'),'200 lbs');
```

```
insert into Orders values('90-1011', to_date('10/30/2023','mm/dd/yyyy'),'450',  
to_date('11/5/2018','mm/dd/yyyy'),'100 lbs');
```

```
insert into Orders values('90-1012', to_date('10/30/2023','mm/dd/yyyy'),'250',  
to_date('11/2/2018','mm/dd/yyyy'),'200 lbs');
```

```
commit;
```

Create table Customers

(Cust_Id Varchar(5), Cust_name Varchar(50), address Varchar(200), Zip varchar(5), Phone varchar(15),
Primary Key (Cust_ID), Foreign Key (zip) References Zipcode(zipcode));

```
insert into Customers values('1-001','Kroger','123 Hemingway dr','38801','312-312-312');
```

```
insert into Customers values('1-002','Walmart','184 West Main St','38634','312-312-313');
```

```
insert into Customers values('1-003','Whole Foods','684 Neby rd','38643','312-312-314');
```

```
insert into Customers values('1-004','Piggly Wiggly','589 Longview Rd','38644','312-312-315');
```

```
insert into Customers values('1-005','Cash Saver','326 Antler','38645','312-312-316');
```

```
insert into Customers values('1-006','Family Market','478 Medical Dr','38646','312-312-317');
```

```
insert into Customers values('1-007','Meat Bros','387 Bonnie Dr','38647','312-312-318');
```

```
insert into Customers values('1-008','Pappys','158 County Rd 318','38648','312-312-319');
```

```
insert into Customers values('1-009','Myrtles','458 Main St','38649','312-312-320');
```

```
insert into Customers values('1-010','Johns Grocer','678 Blues Rd','38651','312-312-321');
```

```
commit;
```

Create table Invoice

(Invoice_Id Varchar(6) Not Null, Cust_Id Varchar(5), Order# Varchar(7), Process_Id Varchar(6), issued
Date, amount_Due Varchar(10), Primary Key (Invoice_Id), Foreign Key (Cust_Id) References
Customers(Cust_Id), Foreign Key (Order#) References Orders (order_Id), Foreign Key (Process_Id)
References Processing_Plant(ProcessID));

```
insert into Invoice values('2-1001','1-001','90-1001','30-101', TO_DATE('11/09/2023','MM/DD/YYYY'),  
'1000');
```

```
insert into Invoice values('2-1002','1-002','90-1002','30-102', TO_DATE('11/08/2023','MM/DD/YYYY'),  
'2000');
```

```
insert into Invoice values('2-1003','1-003','90-1003','30-103', TO_DATE('11/07/2023','MM/DD/YYYY'),  
'3000');
```

```
insert into Invoice values('2-1004','1-004','90-1004','30-104', TO_DATE('11/07/2023','MM/DD/YYYY'),  
'1000');
```

```
insert into Invoice values('2-1005','1-005','90-1005','30-105', TO_DATE('11/07/2023','MM/DD/YYYY'),  
'2000');
```

```
insert into Invoice values('2-1006','1-006','90-1006','30-106', TO_DATE('11/07/2023','MM/DD/YYYY'),  
'500');
```

```
insert into Invoice values('2-1007','1-007','90-1007','30-107', TO_DATE('11/03/2023','MM/DD/YYYY'),  
'200');
```

```
insert into Invoice values('2-1008','1-008','90-1008','30-108', TO_DATE('11/03/2023','MM/DD/YYYY'),  
'1400');
```

```
insert into Invoice values('2-1009','1-009','90-1009','30-109', TO_DATE('11/04/2023','MM/DD/YYYY'),  
'10000');
```

```
insert into Invoice values('2-1010','1-010','90-1010','30-110', TO_DATE('11/04/2023','MM/DD/YYYY'),  
'20000');
```

```
insert into Invoice values('2-1011','1-001','90-1011','30-111', TO_DATE('11/06/2023','MM/DD/YYYY'),  
'25000');
```

```
insert into Invoice values('2-1012','1-002','90-1012','30-101', TO_DATE('11/05/2023','MM/DD/YYYY'),  
'15000');
```

```
commit;
```

Create Table Payments

```
(payment_Id Varchar(6) Not NULL, Invoice# Varchar(6), amount Varchar(100), pay_date varchar(20),  
pay_method Varchar(100), Primary Key (payment_Id), Foreign Key (Invoice#) References Invoice  
(Invoice_Id));
```

```
insert into Payments values('3-1001','2-1001','1000','Nov 3 2023','card');
```

```
insert into Payments values('3-1002','2-1002','2000','Nov 3 2023','check');
```

```
insert into Payments values('3-1003','2-1003','3000','Nov 4 2023','cash');
```

```
insert into Payments values('3-1004','2-1004','1000','Nov 5 2023','card');
```

```
insert into Payments values('3-1005','2-1005','2000','Nov 5 2023','check');
```

```
insert into Payments values('3-1006','2-1006','500','Nov 8 2023','cash');  
insert into Payments values('3-1007','2-1007','200','Nov 8 2023','check');  
insert into Payments values('3-1008','2-1008','1400','Nov 9 2023','check');  
insert into Payments values('3-1009','2-1009','10000','Nov 11 2023','direct deposit');  
insert into Payments values('3-1010','2-1010','20000','Nov 13 2023','cash');  
commit;
```

--End Insert Statement--

---Output of each select * From Table name---

Select * From All

ZIPCODE	CITY	STATE	JOBID	JOB_TITLE	DUTYS	POSITION_MAX	PMAX_SALARY	P_ID	P_NAME	TYPE	MATURITY_TIME_MINIMUM	MATURITY_TIME_MAX	LANDID	ADDRESS	ZIPCODE	ACRES	PRODUCE_ID	PROCESS
38801	Tupelo	MS	605-123	Manager	Manage the Farm	5	100000	20-103	Corn	Plant	9	14	8300-0001	123 Elm Street	38801	10	20-101	30-101
38801	Tupelo	MS	605-123	Manager	Manage the Farm	5	100000	20-103	Corn	Plant	9	14	8300-0001	123 Elm Street	38801	10	20-101	30-101
38801	Tupelo	MS	605-123	Manager	Manage the Farm	5	100000	20-103	Corn	Plant	9	14	8300-0001	123 Elm Street	38801	10	20-101	30-101
38801	Tupelo	MS	605-123	Manager	Manage the Farm	5	100000	20-103	Corn	Plant	9	14	8300-0001	123 Elm Street	38801	10	20-101	30-101
38801	Tupelo	MS	605-123	Manager	Manage the Farm	5	100000	20-103	Corn	Plant	9	14	8300-0001	123 Elm Street	38801	10	20-101	30-101
38801	Tupelo	MS	605-123	Manager	Manage the Farm	5	100000	20-103	Corn	Plant	9	14	8300-0001	123 Elm Street	38801	10	20-101	30-101
38801	Tupelo	MS	605-123	Manager	Manage the Farm	5	100000	20-103	Corn	Plant	9	14	8300-0001	123 Elm Street	38801	10	20-101	30-101

Select * From Payments

PAYMENT_ID	INVOICE#	AMOUNT	PAY_DATE	PAY_METHOD
3-1001	2-1001	1000	Nov 3 2023	card
3-1002	2-1002	2000	Nov 3 2023	check
3-1003	2-1003	3000	Nov 4 2023	cash
3-1004	2-1004	1000	Nov 5 2023	card
3-1005	2-1005	2000	Nov 5 2023	check
3-1006	2-1006	500	Nov 8 2023	cash
3-1007	2-1007	200	Nov 8 2023	check
3-1008	2-1008	1400	Nov 9 2023	check
3-1009	2-1009	10000	Nov 11 2023	direct deposit
3-1010	2-1010	20000	Nov 13 2023	cash

Select * From Invoice

INVOICE_ID	CUST_ID	ORDER#	PROCESS_ID	ISSUED	AMOUNT_DUE
2-1001	1-001	90-1001	30-101	09-NOV-23	1000
2-1002	1-002	90-1002	30-102	08-NOV-23	2000
2-1003	1-003	90-1003	30-103	07-NOV-23	3000
2-1004	1-004	90-1004	30-104	07-NOV-23	1000
2-1005	1-005	90-1005	30-105	07-NOV-23	2000
2-1006	1-006	90-1006	30-106	07-NOV-23	500
2-1007	1-007	90-1007	30-107	03-NOV-23	200
2-1008	1-008	90-1008	30-108	03-NOV-23	1400
2-1009	1-009	90-1009	30-109	04-NOV-23	10000
2-1010	1-010	90-1010	30-110	04-NOV-23	20000
2-1011	1-001	90-1011	30-111	06-NOV-23	25000
2-1012	1-002	90-1012	30-101	05-NOV-23	15000

Select * From Customers

CUST_ID	CUST_NAME	ADDRESS	ZIP	PHONE
1-001	Kroger	123 Hemingway dr	38801	312-312-312
1-002	Walmart	184 West Main St	38634	312-312-313
1-003	Whole Foods	684 Neby rd	38643	312-312-314
1-004	Piggly Wiggly	589 Longview Rd	38644	312-312-315
1-005	Cash Saver	326 Antler	38645	312-312-316
1-006	Family Market	478 Medical Dr	38646	312-312-317
1-007	Meat Bros	387 Bonnie Dr	38647	312-312-318
1-008	Pappys	158 County Rd 318	38648	312-312-319
1-009	Myrtles	458 Main St	38649	312-312-320
1-010	Johns Grocer	678 Blues Rd	38651	312-312-321

Select * from orders

ORDER_ID	ORDER_DATE	PROCESSING_COST	DELIVERY_DATE	ORDER_WEIGHT
90-1002	05-NOV-23	250	08-NOV-23	200 lbs
90-1001	06-NOV-23	500	08-NOV-23	100 lbs
90-1003	05-NOV-23	200	08-NOV-23	500 lb
90-1004	04-NOV-23	150	07-NOV-18	1 ton
90-1005	04-NOV-23	300	07-NOV-18	2 tons
90-1006	25-OCT-23	350	03-NOV-18	200 lbs
90-1007	25-OCT-23	150	03-NOV-18	500 lbs
90-1008	25-OCT-23	250	04-NOV-18	300 lbs
90-1009	25-OCT-23	100	04-NOV-18	400 lbs
90-1010	30-OCT-23	600	06-NOV-18	200 lbs
90-1011	30-OCT-23	450	05-NOV-18	100 lbs
90-1012	30-OCT-23	250	02-NOV-18	200 lbs

Select * from Employee

FNAME	LNAME	SSN	BIRTH_YEAR	BIRTH_MONTH	BIRTH_DATE	ADDRESS	ZIPCODE	SALARY	FARHW	JOBID
Amelia	Smith	123456789	1980	Jan	17	123 Elm Street	38655	50000	70-111	605-124
Jackson	Anderson	135792468	1975	Jan	15	456 Oak Avenue	38655	55000	70-112	605-124
Olivia	Johnson	112341234	2000	Mar	10	789 Birch Lane	38655	70000	70-113	605-131
Liam	Williams	187947382	1985	Nov	5	321 Pine Road	38655	100000	70-114	605-132
Sophia	Brown	492937458	1992	Dec	30	567 Cedar Street	38801	70000	70-115	605-133
Ethan	Jones	974592164	1995	Oct	25	890 Maple Drive	38801	85000	70-116	605-123
Ava	Davis	165834592	1970	Apr	5	234 Willow Lane	38644	200000	70-117	605-123
Noah	Martin	374484958	1985	Aug	3	678 Birch Road	38643	75000	70-118	605-123
Isabella	Wilson	479520948	1997	May	5	123 Pine Avenue	38644	50000	70-119	605-123
Mason	Taylor	389452954	1989	Jun	8	456 Oak Lane	38645	65000	70-120	605-123
Arlen	Bales	324495555	1970	Jan	5	423 Secret Row	38646	67000	70-121	605-125
Ahmann	Jandir	123999000	1971	Jan	3	3221 Road Dr	38647	80000	70-111	605-126
Gared	Cutter	845623369	1972	Mar	5	2398 House St	38648	99000	70-112	605-127
Leesha	Paper	452182356	1973	Nov	2	111 Oxford Way	38649	105000	70-113	605-128
Roger	Halfgrip	859467232	1974	Dec	6	928 6th St	38651	180000	70-114	605-129

Select * from Equipment

EQUIP#	EQUIP_NAME	PURCHASE_PRICE	CONDITION	FARM#
11-555	Tractor	187000	Good	70-111
11-556	Harvester	56000	Good	70-112
11-557	Mower	30000	Good	70-113
11-558	Combine	40000	Good	70-114
11-559	Planter	60000	Good	70-111
11-560	Sprayer	57000	Good	70-112
11-561	Atv	50000	Bad	70-113
11-562	Plow	67000	Good	70-114
11-563	Baler	35000	Mld	70-115
11-564	Nets	10000	Good	70-116
11-565	Wagon	70500	Mld	70-117
11-566	Tractor	86000	Good	70-118
11-567	Harvester	74000	Mld	70-119
11-568	Mower	60000	Good	70-120
11-569	Combine	10000	Mld	70-121

Select * from Farm

FARM#	CONSIDERATIONS	LANDID	PROCESS_ID	F1_NAME	F1_NAME	FARM_PHONE
70-111	Uneven-Terrain	8300-0001	30-101	Ethan	Jones	314-690-1322
70-112	Dry	8300-0002	30-102	Ava	Davis	314-690-1323
70-113	Road washed	8300-0003	30-103	Noah	Martin	314-690-1324
70-114	Floods	8300-0004	30-104	Isabella	Wilson	314-690-1325
70-115	Wet	8300-0005	30-105	Hason	Taylor	314-690-1326
70-116	Uneven-Terrain	8300-0006	30-106	Ethan	Jones	314-690-1327
70-117	Dry	8300-0007	30-107	Ava	Davis	314-690-1328
70-118	Road washed	8300-0008	30-108	Noah	Martin	314-690-1329
70-119	Floods	8300-0009	30-109	Isabella	Wilson	314-690-1330
70-120	Wet	8300-0010	30-110	Hason	Taylor	314-690-1331
70-121	Rocky	8300-0011	30-111	Ethan	Jones	314-690-1332

Select * From Land

LANDID	ADDRESS	ZIPCODE	ACRES	PRODUCE_ID
8300-0001	123 Elm Street	38001	10	20-101
8300-0002	456 Oak Avenue	38634	20	20-102
8300-0003	789 Birch Lane	38643	40	20-103
8300-0004	321 Pine Road	38644	100	20-104
8300-0005	567 Cedar Street	38645	60	20-105
8300-0006	890 Weldon Ln	38646	30	20-106
8300-0007	560 Willbrook	38647	60	20-107
8300-0008	845 County road 2	38648	80	20-108
8300-0009	100 Julia Ln	38649	900	20-109
8300-0010	2000 Cedar Point	38651	70	20-110
8300-0011	540 Goggins Dr	38655	300	20-111

Select * from processing_plant

PROCESSID	P_NAME	P_ADDRESS	ZIPCODE	P_PHONE	AVG_PROCESS_PRICE
30-101	Big-Chucks	345 Country Road 33	30001	662-351-1222	10000
30-102	Fletchers	123 Apple Blvd	30644	662-351-1223	50000
30-103	Simones	293 Miller Circle	30643	662-351-1224	1000
30-104	Wyllies	854 Manchester St	30644	662-351-1225	2000
30-105	millers	4750 4th Street	30645	662-351-1226	4000
30-106	carthers	909 Winchester Blvd	30646	662-351-1227	8000
30-107	Bakers	717 Cyprus Lane	30647	662-351-1228	9000
30-108	Meat House	414 Messenger Rd	30648	662-351-1229	7000
30-109	Pascals	812 Fellow Ln	30649	662-351-1230	5000
30-110	Walters	456 Peyton Way	30651	662-351-1231	4000
30-111	Whits	18 Rodgers Ct	30655	662-351-1232	3000

Select * from produce

P_ID	P_NAME	TYPE	MATURITY_TIME_MINIMUM	MATURITY_TIME_MAX
20-103	Corn	Plant	9	14
20-102	Soybeans	Plant	14	21
20-101	Poultry	Animal	6	12
20-104	Sweet Potatoes	Plant	12	17
20-105	Rice	Plant	12	24
20-106	Peanuts	Plant	19	22
20-107	wheat	Plant	16	34
20-108	Hogs	Animal	20	24
20-109	Catfish	Animal	72	96
20-110	Cattle	Animal	72	88
20-111	Hay	Plant	30	45

Select * From Job

JOBID	JOB_TITLE	DUTYS	POSITION_MAX	PMAJ_SALARY
605-123	Manager	Manage the Farm	5	100000
605-124	hand	Assist in all matter	10	40000
605-125	Tractor Operator	Drive Tractor	4	60000
605-126	Mower Operator	Operate the mower	6	50000
605-127	Spraying Hand	Spray Fields	5	55000
605-128	Harvest Hand	Assist in harvesting	10	50000
605-129	Plow Operator	Operate the Plow	4	60000
605-130	Repsinman	Genral repairs	1	70000
605-131	Combine Operator	Operate the combine	5	80000
605-132	Cowboy	Cowboying	6	40000
605-133	Planter	Plants seed	7	30000

Select * from Zipcode

ZIPCODE	CITY	STATE
38801	Tupelo	MS
38634	Yazoo	MS
38643	Clinton	MS
38644	Baldwyn	MS
38645	New Albany	MS
38646	Corinth	MS
38647	Batesville	MS
38648	Memphis	TEN
38649	Ecru	MS
38651	Olive Branch	MS
38655	Oxford	MS

--End of Select *--

-----SQL QUERIES-----

Software used: Oracle Live SQL

1. Name the city, produce name, and processor for farms located in MS that do own a plow but do not own a tractor.

Select

Z.City,

P.P_name AS Produce,

PP.P_name AS Processor

FROM

Zipcode Z,

Produce P,

Land L,

Processing_Plant PP,

Farm F

Where

P.P_ID = L.Produce_Id

AND F.LandID = L.LandID

AND F.Process_ID = PP.ProcessID

AND Z.Zipcode = L.Zipcode

AND Z.State = 'MS'

AND F.Farm# IN(

(Select Farm#

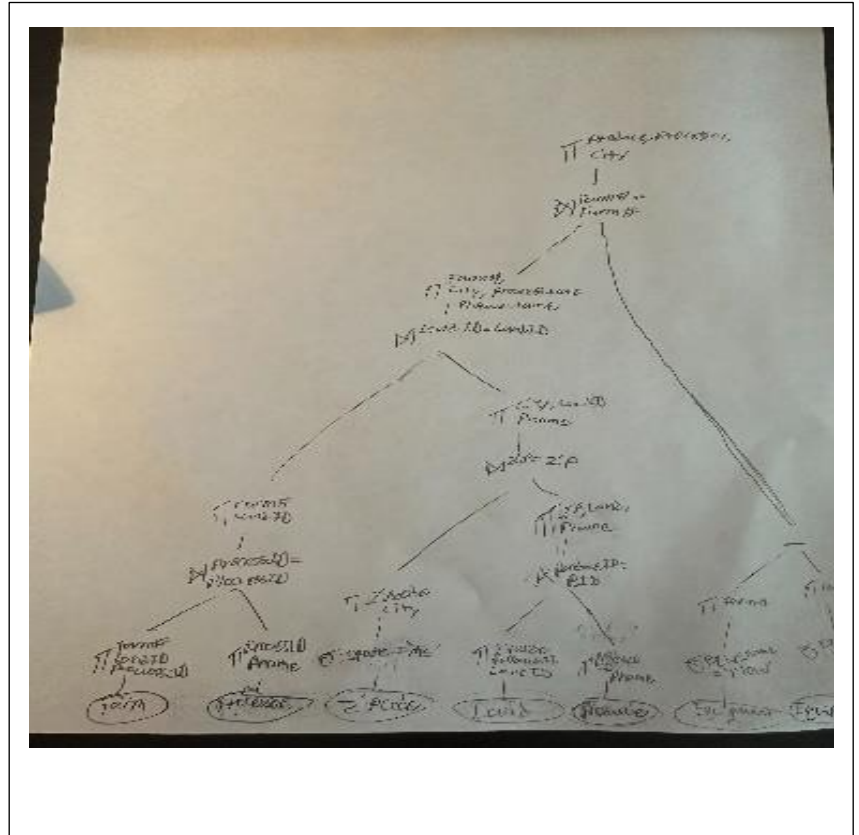
From Equipment

Where Equip_name = 'Plow'

)

Minus

(Select Farm# from Equipment Where Equip_name = 'Tractor'));



Outout:

CITY	PRODUCE	PROCESSOR
Baldwyn	Sweet Potatoes	wylies

- For each farm that produces animals as produce type or has a minimum maturity time of less than 20 but is not located in Clinton MS display the Processing Plant name, Farm#, and Produce name that that farm produces.

Select

PP.P_name AS Plant,

F.Farm#,

P.P_name AS Produce

From

Farm F,

Processing_Plant PP,

Land L,

Produce P

Where

F.Process_ID = PP.ProcessID

AND L.LandID = F.LandID

AND L.Produce_ID = P.P_ID

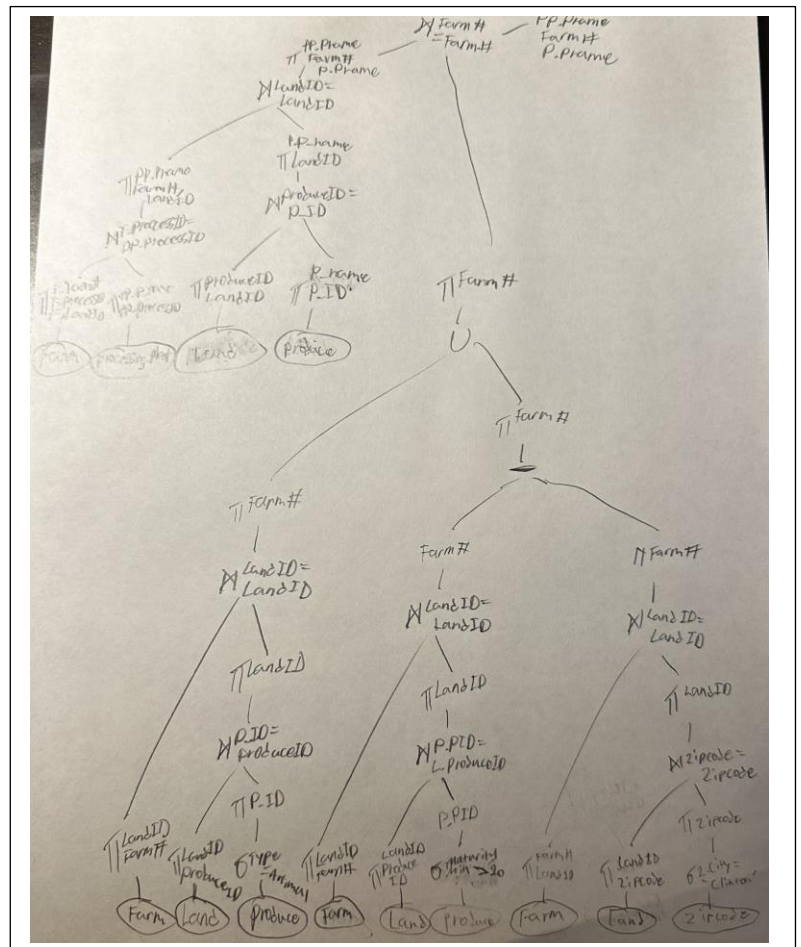
AND F.Farm# IN (

(Select F.Farm#

FROM Farm F, Produce P, Land L

Where P.Type = 'Animal'

AND F.LandID = L.LandID



AND L.Produce_ID = P.P_ID)

UNION

(Select F.Farm#

FROM Farm F, Land L, Produce P

WHERE P.Maturity_time_minimum < 20

AND P.P_ID = L.Produce_ID

AND F.LandID = L.LandID

MINUS

(Select F.Farm#

From Farm F, Land L, ZipCode Z

Where Z.City = 'Clinton'

AND L.Zipcode = Z.Zipcode

AND F.LandID = L.LandID)

)

);

Output:

PLANT	FARM#	PRODUCE
Fletchers	70-112	Soybeans
Big-Chucks	70-111	Poultry
wyllies	70-114	Sweet Potatoes
millers	70-115	Rice
carters	70-116	Peanuts
Bakers	70-117	wheat
Meat House	70-118	Hogs
Pascals	70-119	Catfish
Walters	70-120	Cattle

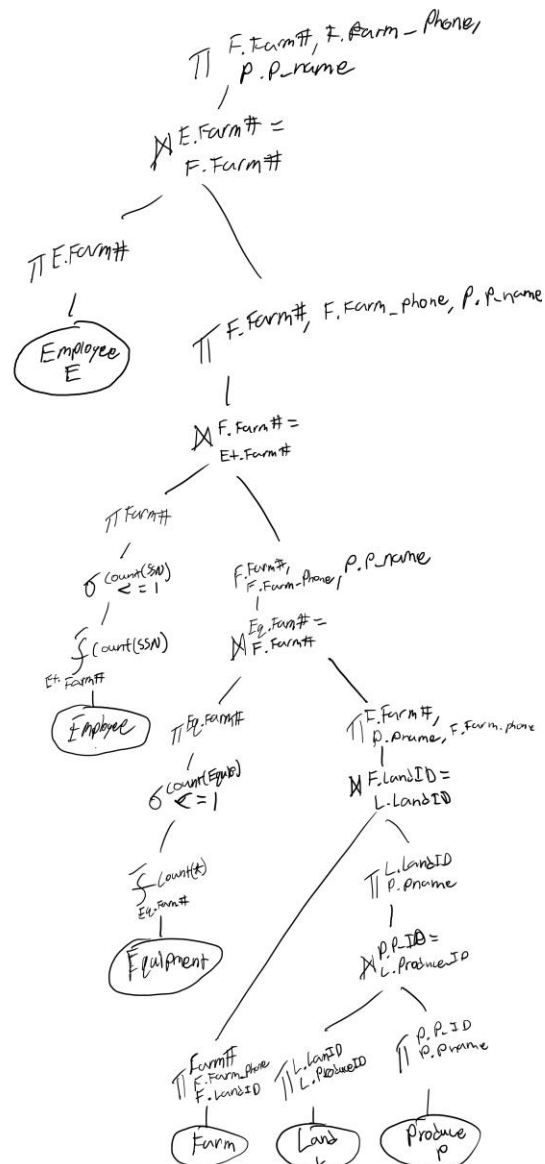
3. List the farm# and Farm phone number of all farms that have no more than 1 piece of equipment and no more than 1 employee working there. In addition, list what the farm produces.

```
SELECT
    F.Farm#,
    F.Farm_Phone,
    P.P_name
FROM
    Farm F,
    Produce P,
    Land L,
    Employee E,
    (SELECT EQ.Farm#, COUNT(*) AS Equipment_Count
     FROM Equipment EQ
     GROUP BY EQ.Farm#
     HAVING COUNT(*) <= 1) ET,
    (SELECT E1.Farm#, COUNT(SSN) AS Employee_Count
     FROM Employee E1
     GROUP BY E1.Farm#
     HAVING COUNT(SSN) <= 1) EMP
WHERE
    P.P_ID = L.Produce_Id
    AND L.LandId = F.LandID
    AND F.Farm# = E.Farm#
    AND ET.Farm# = F.Farm#
    AND EMP.Farm# = F.Farm#;
```

Output:

FARM#	FARM_PHONE	P_NAME
70-118	314-698-1329	Hogs
70-121	314-698-1332	Hay
70-119	314-698-1330	Catfish
70-120	314-698-1331	Cattle

Tree:



4. List the customers name, Phone number and product bought for all customers who purchased produce that are not plants. List only those who have paid their invoice.

```
SELECT
    C.Cust_name,
    C.Phone,
    P.P_name
FROM
    Customers C,
    Produce P,
    Processing_Plant PP,
    Invoice I,
    Land L,
    Farm F,
    Payments PM
WHERE
    P.P_Id = L.Produce_Id
    AND L.LandID = F.LandId
    AND F.Process_Id = PP.ProcessID
    AND C.Cust_ID = I.Cust_Id
    AND PP.ProcessId = I.Process_ID
    AND I.Invoice_Id = PM.Invoice#
    AND P.P_Id NOT IN (
        SELECT P_Id
        FROM Produce
        WHERE Type = 'Plant'
    );
```

Output:

CUST_NAME	PHONE	P_NAME
Kroger	312-312-312	Poultry
Pappys	312-312-319	Hogs
Myrtles	312-312-320	Catfish
Johns Grocer	312-312-321	Cattle

5. For each processing plant that receives produce from one farm that is not managed by Ethan Jones. List the name of the processing plant, the order numbers associated with the processing plant, the farm# of the farm supplying the produce, the maximum maturity time of the produce, and the customer's name in which the order has been paid for.

```
SELECT
    PP.P_Name AS Processor, I.Order#,
    F.Farm#, P.Maturity_Time_Max, C.Cust_name AS Customer
FROM
    Customers C, Produce P,
    Farm F, Invoice I, Processing_Plant PP,
    Land L, payments PA
WHERE
    P.P_Id = L.Produce_Id
    AND L.LandID = F.LandID
    AND F.Process_ID = PP.ProcessID
    AND I.Cust_ID = C.Cust_Id
    AND I.Process_Id = PP.ProcessId
    AND F.Process_ID IN (
        (SELECT PP1.ProcessID
         FROM Farm F1, Processing_Plant PP1
         WHERE F1.Process_ID = PP1.ProcessID
         GROUP BY PP1.P_name, PP1.ProcessID
         HAVING COUNT(F1.Farm#) < 2)
    MINUS
    (SELECT Process_ID
     FROM Farm F2
     WHERE M_Fname = 'Ethan'
     AND M_Lname = 'Jones')
    )
    AND I.Invoice_Id = PA.Invoice#;
```

Output:

PROCESSOR	ORDER#	FARM#	MATURITY_TIME_MAX	CUSTOMER
Simones	90-1003	70-113	14	Whole Foods
Fletchers	90-1002	70-112	21	Walmart
wylies	90-1004	70-114	17	Piggly Wiggly
millers	90-1005	70-115	24	Cash Saver
Bakers	90-1007	70-117	34	Meat Bros
Meat House	90-1008	70-118	24	Pappys
Pascals	90-1009	70-119	96	Myrtles
Walters	90-1010	70-120	88	Johns Grocer

-
6. List all the employees that work in the position number (605-123) and earn the maximum salary in that position among all farms. List the Produce type the name of the produce the processing plant address, the city it resides in, and the # of acres of the farm that farms that produce.

```
SELECT
    E.fname,
    E.lname,
    P.type,
    P.P_Name,
    PP.P_address,
    Z.city,
    L.Acres
FROM
    Employee E,
    Farm F,
    produce P,
    processing_plant PP,
    zipcode Z,
    land L
WHERE
    E.Farm# = F.Farm#
    AND F.Process_Id = PP.ProcessId
    AND F.LandID = L.LandID
```

```
AND L.Produce_id = P.P_ID
AND PP.zipcode = Z.zipcode
AND NOT EXISTS (
  (SELECT
    TO_NUMBER(PMAx_Salary)
  FROM Job
  WHERE JobID = '605-123')
MINUS
  (SELECT
    TO_NUMBER(E1.salary)
  FROM job J, employee E1
  WHERE E1.SSN = E.SSN
  AND E.jobid = J.jobid));
```

Output:

FNAME	LNAME	TYPE	P_NAME	P_ADDRESS	CITY	ACRES
Liam	Williams	Plant	Sweet Potatoes	854 Manchester St	Baldwyn	100

-
7. For each farm that has no less than 1 piece of equipment and is not managed by Ethan Jones, list the Farm#, the city and state the farm is in, the address of the farm, and the total amount of equipment the farm holds.

```
SELECT
  F.Farm# AS Farm,
  Z.CITY,
  Z.State,
  L.Address,
  EQ.Tot_Equipment
FROM
  Farm F,
  ZipCode Z,
  Land L,
```

```
(SELECT Farm#, COUNT(Equip#) AS Tot_Equipment
FROM Equipment
GROUP BY Farm#) EQ
WHERE
    L.LandID = F.LandID
    AND F.Farm# = EQ.Farm#
    AND L.Zipcode = Z.Zipcode
    AND F.Farm# IN (
        (SELECT Farm#
        FROM Equipment
        GROUP BY Farm#
        HAVING COUNT(Equip#) > 1)
        MINUS
        (SELECT Farm#
        FROM Farm
        WHERE M_Fname = 'Ethan'
        AND M_Lname = 'Jones')
    );
```

Output:

FARM	CITY	STATE	ADDRESS	TOT_EQUIPMENT
70-114	Baldwyn	MS	321 Pine Road	2
70-115	New Albany	MS	567 Cedar Street	2
70-113	Clinton	MS	789 Birch Lane	2
70-112	Yazoo	MS	456 Oak Avenue	2
70-117	Batesville	MS	560 Willbrook	2

8. For each farm that is involved in 2 or more orders and is located in MS list the farm#, the produce name, the city and state in which the farm is located in, the amount to be made for each order, the customer's name, and the weight of each order.

```
SELECT
    F.Farm#,
    P.P_name AS Produce_Name,
    Z.City,
    Z.State,
    I.amount_Due AS amt,
    C.Cust_name,
    O.order_Weight AS QTY
FROM
    Farm F,
    ZipCode Z,
    Invoice I,
    Customers C,
    Orders O,
    Land L,
    Produce P,
    Processing_Plant PP
WHERE
    P.P_ID = L.Produce_Id
    AND L.LandID = F.LandID
    AND F.Process_ID = PP.ProcessID
    AND I.Process_ID = PP.ProcessID
    AND C.Cust_Id = I.Cust_Id
    AND O.order_Id = I.Order#
    AND Z.Zipcode = L.zipcode
    AND Z.State = 'MS'
    AND PP.ProcessID IN (
        SELECT PP2.ProcessID
        FROM Invoice I2, Processing_Plant PP2
        WHERE I2.Process_ID = PP2.ProcessID
        GROUP BY PP2.ProcessID
```

```
HAVING COUNT(DISTINCT I2.Order#) >= 2  
);
```

Output:

FARM#	PRODUCE_NAME	CITY	STATE	AMT	CUST_NAME	QTY
70-111	Poultry	Tupelo	MS	1000	Kroger	100 lbs
70-111	Poultry	Tupelo	MS	15000	Walmart	200 lbs

-
9. For the Farm associated with the invoice that has the highest amount due, list the Farm#, Processing Plant, Invoice number, and customer name. Also list that maximum amount

```
SELECT
```

```
F.Farm#,
```

```
PP.P_name AS Processing_Plant,
```

```
I.Invoice_ID,
```

```
C.Cust_Name,
```

```
I1.MAX_Amount_Due
```

```
FROM
```

```
Processing_Plant PP,
```

```
Farm F,
```

```
Invoice I,
```

```
Orders O,
```

```
Customers C,
```

```
(SELECT MAX(TO_NUMBER(Amount_Due)) AS Max_Amount_Due FROM Invoice) I1
```

```
WHERE
```

```
PP.ProcessID = F.Process_ID
```

```
AND PP.ProcessID = I.Process_ID
```

AND I.Order# = O.Order_ID

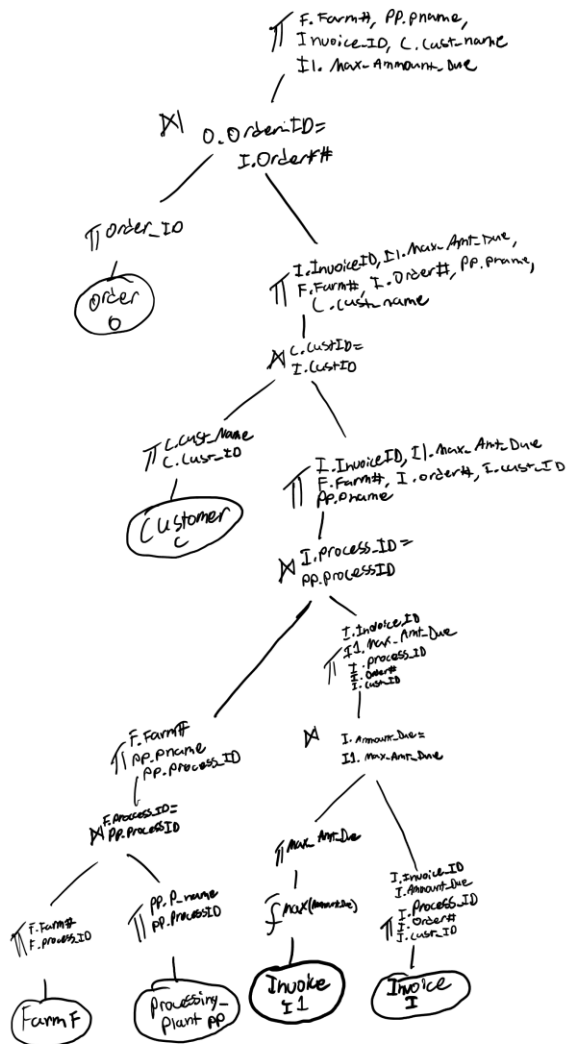
AND I.Cust_ID = C.Cust_ID

AND TO_NUMBER(I.Amount_Due) = I1.Max_Amount_Due;

Output:

FARM#	PROCESSING_PLANT	INVOICE_ID	CUST_NAME	MAX_AMOUNT_DUE
70-121	Whits	2-1011	Kroger	25000

Tree:



10. For each produce type that is not an animal and is on a farm with no less than 1 piece of equipment and is not managed by mason Taylor, list the produce, the farm#, the total equipment on that farm, the total employees of that farm, And the manager's name.

```
SELECT
    P.P_name as Produce,
    F.Farm#,
    EQ.total_equipment,
    E.total_employees,
    F.M_Fname,
    F.M_Lname
FROM
    Produce P,
    Farm F,
    Land L,
    (SELECT Farm#, COUNT(Equip#) AS total_equipment
     FROM Equipment
     GROUP BY Farm#
     HAVING COUNT(Equip#) >= 1) EQ,
    (SELECT Farm#, COUNT(SSN) AS total_employees
     FROM Employee
     GROUP BY Farm#) E
WHERE
    L.Produce_ID = P.P_ID
    AND L.LandID = F.LandID
    AND F.Farm# = EQ.Farm#
```

```
AND F.Farm# = E.Farm#  
  
AND P.Type != 'Animal'  
  
AND NOT EXISTS (  
  
    SELECT Farm#  
  
    FROM Farm F2  
  
    WHERE F2.M_Fname = 'Mason'  
  
    AND F2.M_Lname = 'Taylor'  
  
    AND F2.Farm# = F.Farm#  
  
);
```

Output:

PRODUCE	FARM#	TOTAL_EQUIPMENT	TOTAL_EMPLOYEES	M_FNAME	M_LNAME
Sweet Potatoes	70-114	2	2	Isabella	Wilson
Corn	70-113	2	2	Noah	Martin
Soybeans	70-112	2	2	Ava	Davis
Peanuts	70-116	2	1	Ethan	Jones
wheat	70-117	2	1	Ava	Davis

--End of SQL Queries--

--END OF PROJECT--