Faculty of Computing, UMPSA

BCI2033 Database Systems

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Group No: 4

Lab Section: 01G

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Project Title: Chicken Farm Management System

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PART A: Proposal of Database System

1. The Content of Report:

1.1 Project Background

As a huge company that handles the chicken farm around Malaysia, we have a strong chicken farm management system. It involves all the things that relate to the chicken itself such as farm properties, breed, the number of chickens, eggs, customer demand, the types of products it produces, purchases, employees, suppliers, medicine, and food. This system that we create is to have efficient management in all criteria so that it smoothens the process related to a lot of teams. To better understand the system, the farm entity will refer to the basic information of the farm such as farm store, coop quantity, and farm temperature to observe. We also record the chicken's breed such as breed name, and minimum and maximum breed weight. The chicken itself is about the chicken's gender, the chicken's weight, and many more. The egg grade and type also need to be recorded as the performance of each farm. Moreover, our chicken farm also stores customer information such as name, address, and phone number as employees we store their information such as name, gender, and shift time. As a farm, we also need a supplier to supply and the data such as the supplier's name and type of supply need to be recorded. Suppliers mostly supply medicine and food, therefore we observe the medicine type, and dose. For food, the expired date and food type should be observed.

1.2 Objectives

The main objective of our project is to optimise and improve the efficiency of our whole chicken farm management system, ensuring effortless communication across all teams and areas of the farm. This includes improving data management related to farm properties, breed information, chicken population, egg production, customer demand, product types, purchases, employee details, supplier interactions, and the storage and monitoring of medicine and food supplies. The aim is to create a strong system that allows for efficient decision-making and overall operating smoothness. Specific objectives include refining data tracking for essential farm parameters like farm store, coop quantity, and farm temperature, as well as detailed recording of chicken breeds, individual chicken attributes such as gender and weight, and the grading and types of eggs produced. Understanding and interacting to market factors, such as customer preferences and industry trends, involves altering production levels, launching new items based on demand, and improving overall responsiveness to consumer needs. By achieving these goals, we hope to maintain high standards in chicken farming, remaining competitive in the market while preserving internal operational excellence.

1.3 Scope

This report addresses the comprehensive management of farm-related information, covering diverse aspects such as breed, chicken, egg, customer, supplier, product, purchase, medicine, and food. In the context of the farm, data management includes details about the farm's location, temperature, and coop quantity. Specifically, the breed section encompasses information like breed name, minimum and maximum breed weights. For chickens, data includes gender, price, and weight. Egg-related information involves the analysis of egg grade and type. Customer data incorporates name, address, and phone number. Product data identifies product type and price, while purchase data includes details like purchase date, customer ID, product ID, and quantity. Employee information covers name, gender, and shift. Suppliers are characterized by name and type, and for food, data includes a series number, expiration date, and type. This comprehensive data management system ensures efficient and organized handling of various farm-related parameters.

2. Comparison Between Two Databases

	Manual Process	Database System 1	Database System 2
Process/ entities	ERD Diagram	Farm, Plants, Treatment, Medicine, Employees, Login	Purchase. Product Customer Employee Customer_order
Attributes	ERD Diagram	farm_id, farm_name, farm_type, farm_description, plant_id, plant _name, plant_type, plant_description, treatment_id, treatment_name, treatment_method, treatment_type, treatment_description medicine_id, medicine_name, medicine company, medicine composition, medicine_cost, medicine type, medicine _dose, medicine_description employee_id, employee_name, employee_mobile, employee_email, employee_username, employee_password, employee._address login_id, login_user_id, login_role_id, login _username, login_password, login_lastlogin	Purchase_id Quantity Purchase_date Transaction_mode Remarks Supplier_name Employee_id Product_id Name Date_in Expiry_date Customer_id Name Contact Addres Employee_id Name Role Password Address Contact Order_id Order_date Status Product_id Customer_id
Primary Keys	ERD Diagram	farm_id, plant id, treatment_id, medicine_id, employee_id,	Purchase_id Product_id Customer_id Employee_id Order_id

		login_id,	
Other features	None		
References.	None	https://www.freeprojectz.com/entity-relationship/farm-management-system-er-diagram	ResearchGate - Poultry Farm Management Information System Case Study - Search (bing.com)

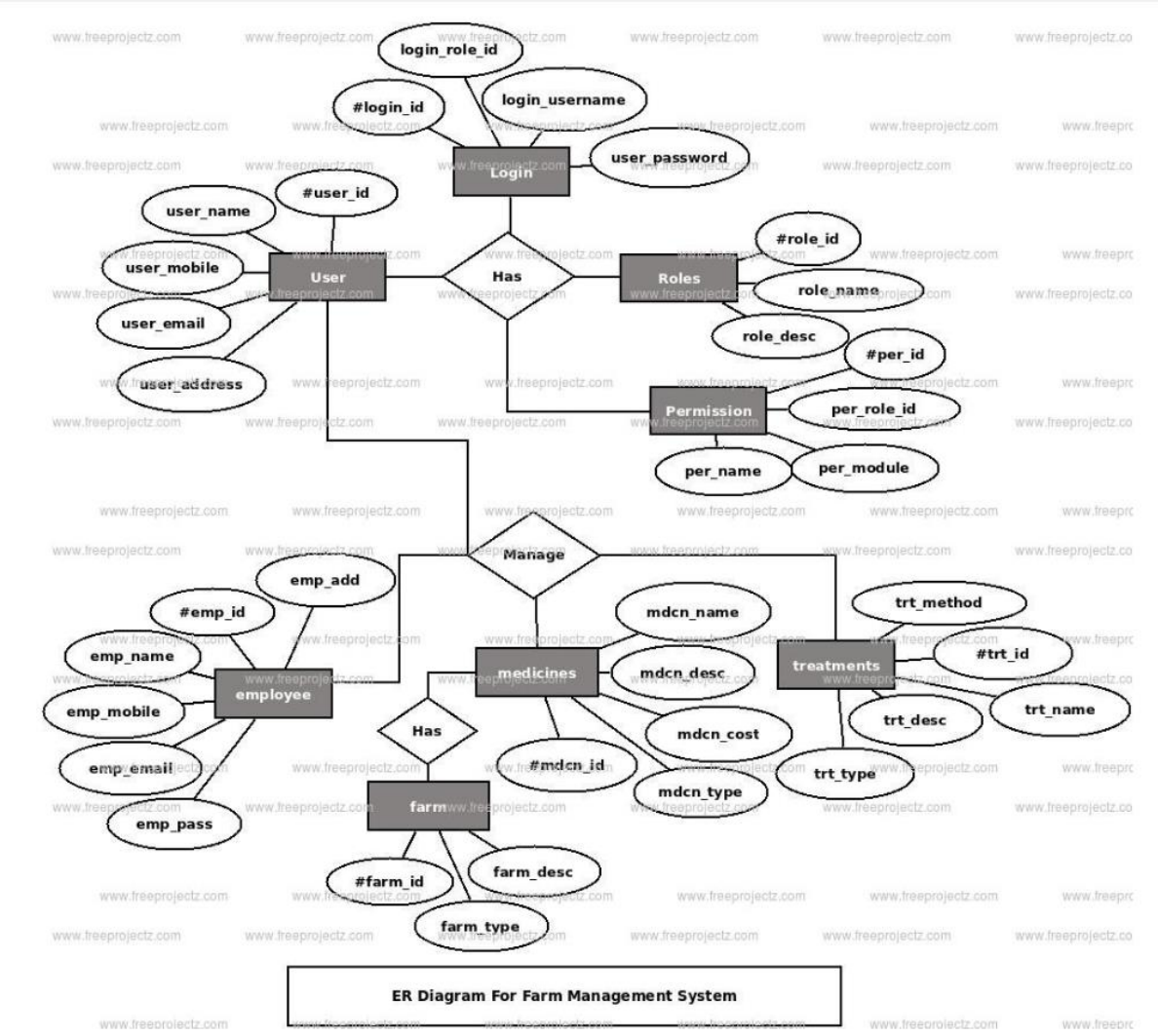


Diagram 1: ERD Database System 1

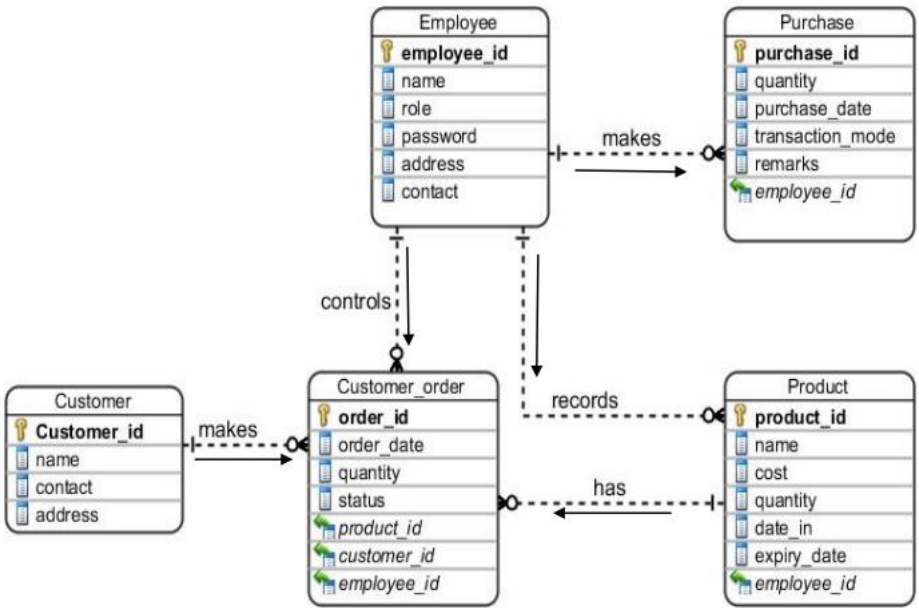


Diagram 2: ERD Database 2

Attribute and Primary Key

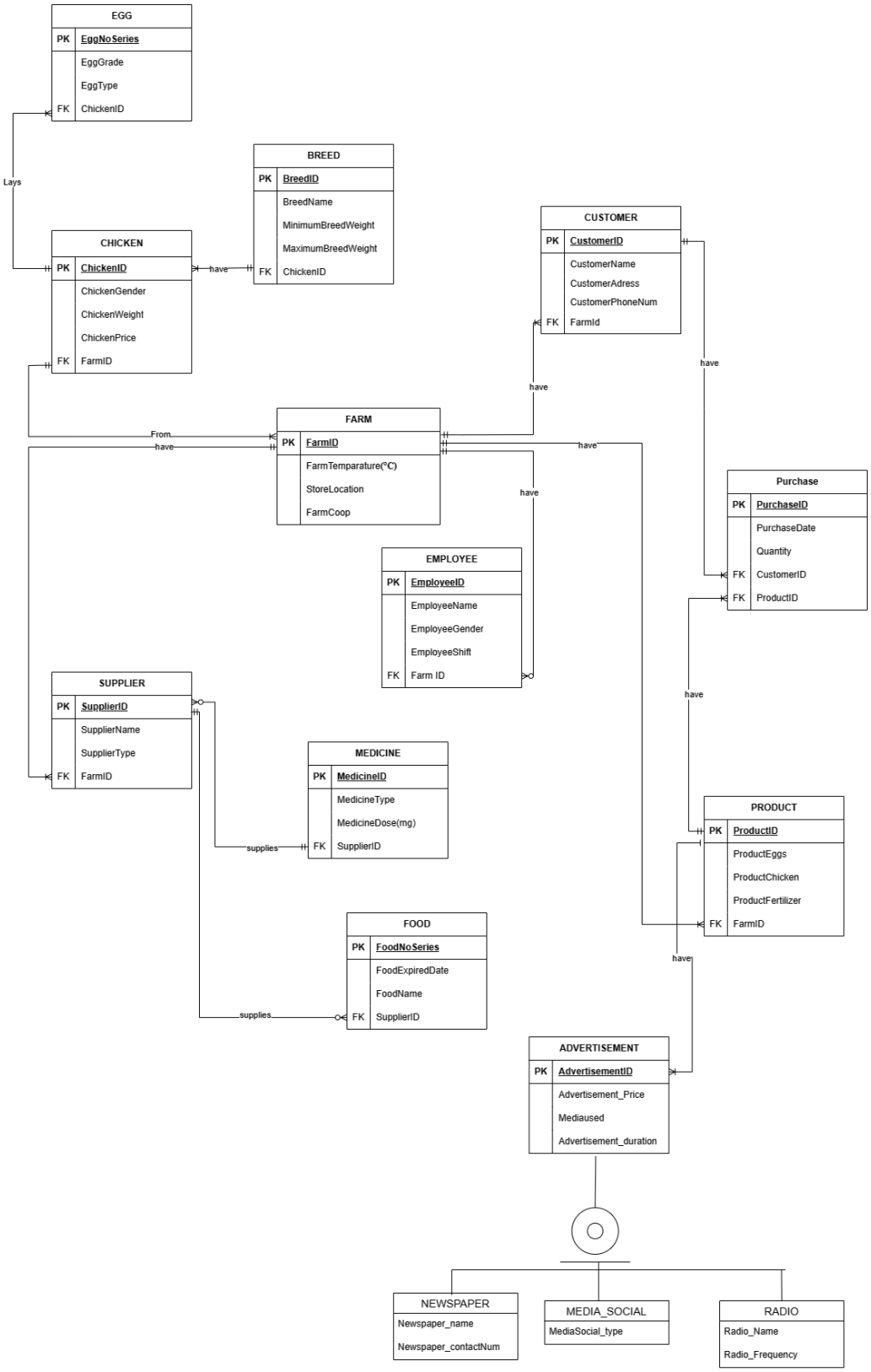
Entity	Primary Key	Attributes
Farm	farmID	farmstore coopqnty famtemp
Breed	breedid	breedname Minimumbreedweight Maximumbreedweight
Chicken	chickenID	chickengender chickenprice chickenweight farmid (FK) breedid (FK)
Egg	eggNoSeries	eggGrade eggType chickenID (FK)
Customer	CustomerID	customerName customerAddress customerPhoneNumber farmId (FK)
Product	ProductID	ProductType FarmID (FK) Price
Purchase	TransactionID	DatePurchase CustomerID (FK) ProductID(FK) Quantity
Employee	EmployeeID	EmployeeName EmployeeGender EmployeeShift FarmID(FK)
Supplier	supplierid	suppliername suppliertype farmid (FK)
Medicine	MecidineID	MedicineType MedicineDose SupplierID (FK)
Food	FoodNoSeries	FoodExpiredDate FoodType SupplierID (FK)

3. Business Rule of Proposed System

Bil	Entities	Entities	Relationship	Cardinality
1	Farm	Chicken	1:M	• A farm has many chicken • A chicken from one farm
2	Farm	Customer	1:M	• A farm can have many customers. • A customer can visit a farm
3	Farm	Employee	1:M	• A farm has many employees • An employee can work at one farm
4	Farm	Supplier	1:M	• Farm is supplied by many suppliers. • Supplier can supply to a farm
5	Farm	Product	1:1	• A product type produces by one farm • A farm produce one product type
6	Breed	Chicken	1:M	• A breed can have many chickens. • A chicken can be one breed
7	Chicken	Egg	1:M	• A chicken may lay many eggs. • An egg is layed by one chicken
8	Customer	Purchase	1:M	• A customer has many purchases. • One purchase for a customer
9	Product	Purchase	1:M	• A product can be purchased many times • One purchase only for one product
10	Supplier	Medicine	1:M	• A supplier may supply some medicine. • One medicine type is supplied by a supplier
11	Supplier	Food	1:M	• A supplier may supply many foods. • A food is supplied by a supplier.

4. ERD &EERD of Proposed System

4.1 Entity Relationship Diagram (ERD) And Extended Entity Relationship Diagram (EERD)



5. The Table and Data

5.1 Chicken Table

Chicken Id	ChickenGender	ChickenPrice (RM)	ChickenWeight (kg)	FarmId	BreedId
ch001	Male	20.5	2.3	FARM001	B101
ch002	Female	25.00	3.0	FARM002	B102
ch003	Male	19.5	2.1	FARM003	B103
ch004	Female	20.5	2.3	FARM004	B104
ch005	Male	16.5	1.5	FARM005	B105
ch006	Female	19.00	2.0	FARM006	B106
ch007	Male	18.00	1.8	FARM007	B107
ch008	Female	20.10	2.2	FARM008	B108
ch009	Male	10.50	1.2	FARM009	B109
ch010	Female	25.00	3.0	FARM010	B110
ch011	Male	19.00	2.0	FARM010	B101
ch012	Female	22.8	2.6	FARM002	B102
ch013	Male	22.3	2.5	FARM003	B103
ch014	Female	17.00	1.6	FARM004	B104
ch015	Male	18.5	1.9	FARM005	B105
ch016	Female	20.5	2.3	FARM006	B106
ch017	Male	24.50	2.8	FARM007	B107
ch018	Female	16.00	1.4	FARM008	B108
ch019	Male	17.5	1.7	FARM009	B109
ch020	Female	17.00	1.6	FARM001	B110

5.2 Breed Table

BreedID	BreedName	Minimum BreedWeight (kg)	Maximum BreedWeight (kg)
B101	Turkey	8.0	18.0
B102	Village chicken	0.9	1.8
B103	FreeRange Chicken	2.7	2.6
B104	Broiler	1.6	3.0
B105	Sebright Chicken	8.0	18.0
B106	Barred Plymouth Rock	0.9	1.8
B107	Silkie Chicken	2.7	2.6
B108	Barred Plymouth Rock	1.6	3.0
B109	Rhode Island Red	8.0	18.0
B110	Serama	0.9	1.8

5.3 Egg Table

EggNoSeries	EggGrade	EggType	ChickenId
E001	AA	Brown	ch001
E002	AA	White	ch002
E003	A	Brown	ch003
E004	A	White	ch004
E005	B	Brown	ch005
E006	B	White	ch006
E007	C	Brown	ch007
E008	C	White	ch008
E009	D	Brown	ch001
E010	D	White	ch012
E011	AA	Brown	ch011
E012	AA	White	ch012
E013	A	Brown	ch013
E014	A	White	ch013
E015	B	Brown	ch015
E016	B	White	ch016
E017	C	Brown	ch017
E018	C	White	ch018
E019	D	Brown	ch019
E020	D	White	ch020
E021	AA	Brown	ch011
E022	AA	White	ch012
E023	A	Brown	ch013
E024	A	White	ch014
E025	B	Brown	ch015

5. 4 Customer Table

CustomerID	CustomerName	CustomerAddress	CustomerPhoneNum	FarmId
C01	Ahmad bin Hassan	12 Jalan Tun Fuad Stephens, Sabah	012-345-6789	FARM001
C02	Siti binti Lim	45 Jalan Kampung Nelayan, Sarawak	019-876-5432	FARM002
C03	Tan Mei Ling	78 Jalan Tun Ismail, Johor	017-234-5678	FARM003
C04	Wong Cheng	90 Jalan Tun Abdul Razak, Pahang	016-789-0123	FARM004
C05	Raja Shah	33 Jalan Teluk Bahang, Penang	014-567-8901	FARM005
C06	Faridah Abdullah	67 Jalan Tun Razak, Kuala Lumpur	013-890-1234	FARM006
C07	Lim Wei Hong	89 Jalan Sultan Ismail, Perak	011-234-5678	FARM007
C08	Nurul Aminah	22 Jalan Teluk Cempedak, Kelantan	018-765-4321	FARM008
C09	Abdul Rahman	55 Jalan Tun Hussein, Selangor	019-321-0987	FARM009
C10	Nisha Devi	88 Jalan Kampung Laut, Terengganu	012-654-3210	FARM010
C11	Rajesh Kumar	17 Jalan Tun Ali, Kedah	016-098-7654	FARM001
C12	Aisha Abdullah	25 Jalan Dato Onn, Melaka	013-543-2109	FARM002
C13	Lim Wei Xiang	37 Jalan Tanjung Lipat, Sabah	011-876-5432	FARM003
C14	Nurul Husna	44 Jalan Tunku Abdul Rahman, Sarawak	017-234-5678	FARM004
C15	Hafiz bin Ismail	61 Jalan Bunga Raya, Johor	019-765-4321	FARM005
C16	Wong Li Ming	73 Jalan Sultan Ahmad Shah, Pahang	014-321-0987	FARM006
C17	Tan Siew Peng	82 Jalan Kebun Sultan, Penang	012-654-3210	FARM007
C18	Sharvin Raj	93 Jalan Ipoh, Kuala Lumpur	016-098-7654	FARM008
C19	Liew Wei Xuan	29 Jalan Bukit Melaka, Perak	013-543-2109	FARM009
C20	Nurul Ain	48 Jalan Bukit Tunggal, Kelantan	011-876-5432	FARM010

5.5 Purchase table

PurchaseId	PurchaseDate	CustomerId	ProductId	Quantity
T01	2023-12-31	C01	P101	3
T02	2023-12-31	C01	P202	8
T03	2023-02-28	C04	P303	20
T04	2023-10-20	C02	P401	1
T05	2023-10-10	C02	P502	2
T06	2023-12-05	C05	P603	1
T07	2023-03-15	C03	P701	2
T08	2023-09-30	C06	P802	2
T09	2023-04-25	C07	P903	3
T10	2023-11-01	C08	P1001	4
T11	2023-01-18	C09	P101	14
T12	2023-11-30	C10	P202	5
T13	2023-05-05	C11	P303	23
T14	2023-10-15	C12	P401	1
T15	2023-02-10	C12	P502	2
T16	2023-12-20	C14	P603	1
T17	2023-10-13	C15	P701	1
T18	2023-12-31	C16	P802	3
T19	2023-03-01	C18	P903	2
T20	2023-11-25	C19	P1001	3
T21	2023-11-15	C20	P101	3
T22	2023-02-26	C20	P202	2
T23	2023-03-19	C14	P401	2
T24	2023-05-09	C07	P1001	1
T25	2023-09-22	C14	P701	1
T26	2023-10-13	C05	P802	1
T27	2023-11-29	C02	P603	2

5.6 Product Table

Product ID	Product Type	Farm ID	Price (RM)
P101	Lives Chicken	FARM001	9.00
P202	Frozen Chicken	FARM002	15.00
P303	Egg	FARM003	0.50
P401	Coop Cleaners	FARM004	27.00
P502	Poultry Feed	FARM005	130.00
P603	Waste Management	FARM006	150.50
P701	Heat Lamps	FARM007	40.00
P802	Egg Collection Baskets	FARM008	15.00
P903	Pest Control Supplies	FARM009	90.00
P1001	Nesting Boxes	FARM010	70.00

5.7 Farm Table

FarmID	StoreLocation	CoopQuantity	FarmTemperature (°C)
FARM001	KL Store	50	26.5
FARM002	Penang Store	45	27.0
FARM003	Johor Store	28	25.5
FARM004	Selangor Store	55	26.8
FARM005	Kedah Store	48	25.5
FARM006	Perak Store	52	27.2
FARM007	Sarawak Store	40	28.0
FARM008	KL Store	58	26.5
FARM009	Perlis Store	42	27.5
FARM010	Pahang Store	47	26.0

5.8 Employee Table

Employee ID	Employee Name	Employee Gender	Employee Shift	Farm ID
E1001	Emran bin Hassan	Male	Day Shift	FARM001
E1002	Azalea binti Abdullah	Female	Night Shift	FARM002
E1003	Tan Wei Jie	Male	Evening Shift	FARM003
E1004	Nor Aishah	Female	Day Shift	FARM004
E1005	Mohd Azlan	Male	Night Shift	FARM005
E1006	Lim Mei Ling	Female	Evening Shift	FARM006
E1007	Raj Kumar	Male	Day Shift	FARM007
E1008	Anisah Abdullah	Female	Night Shift	FARM008
E1009	Lee Kah Wai	Male	Evening Shift	FARM009
E1010	Nurul Huda	Female	Day Shift	FARM010
E1011	Tan Kok Leong	Male	Night Shift	FARM001
E1012	Tan Mei Yen	Female	Evening Shift	FARM002
E1013	Arul Raj	Male	Day Shift	FARM003
E1014	Wong Mei Lin	Female	Night Shift	FARM004
E1015	Lim Wei Shen	Male	Evening Shift	FARM005
E1016	Nurul Syafiqah	Female	Day Shift	FARM006
E1017	Ganesh Kumar	Male	Night Shift	FARM007
E1018	Hafizah Mohd Isa	Female	Evening Shift	FARM008
E1019	Ahmad Farid	Male	Day Shift	FARM009
E1020	Mei Mei	Female	Night Shift	FARM010

5.9 Supplier Table

SupplierID	SupplierName	SupplierType	FarmID
S01	MediCure	Medicine	FARM001
S02	XYZ Foods	Food	FARM002
S03	EcoBite	Food	FARM003
S04	PoultryPro	Chicken	FARM004
S05	NutriFeeds	Chicken	FARM005
S06	EcoBite	Food	FARM006
S07	MediCure	Medicine	FARM007
S08	PharmaHealth	Medicine	FARM008
S09	XYZ Foods	Food	FARM009
S10	PoultryPro	Chicken	FARM010
S11	NutriFeeds	Chicken	FARM001
S12	PharmaHealth	Medicine	FARM002
S13	MediCure	Medicine	FARM003
S14	XYZ Foods	Food	FARM004
S15	PharmaHealth	Medicine	FARM005
S16	PoultryPro	Chicken	FARM006
S17	NutriFeeds	Chicken	FARM007
S18	EcoBite	Food	FARM008
S19	MediCure	Medicine	FARM009
S20	XYZ Foods	Food	FARM010

5.10 Medicine Table

MedicineID	MedicineType	MedicineDose(mg)	SupplierID
M01	Vaccine	50	S01
M02	Antibiotic	25	S03
M03	Sanitation	5	S07
M04	Vaccine	75	S05
M05	Antibiotic	30	S09
M06	Sanitation	10	S08
M07	Vaccine	60	S02
M08	Antibiotic	20	S01
M09	Sanitation	8	S02
M010	Vaccine	40	S03
M011	Antibiotic	15	S05
M012	Sanitation	6	S08
M013	Vaccine	55	S09
M014	Antibiotic	22	S01
M015	Sanitation	7	S03
M016	Vaccine	70	S01
M017	Antibiotic	18	S01
M018	Sanitation	9	S03
M019	Vaccine	45	S01
M020	Antibiotic	12	S01

5.11 Food Table

FoodNoSeries	FoodExpiredDate	FoodName	SupplierID
F001	2026-12-31	Chicken Pellets	S02
F002	2026-11-15	Chicken Grains	S06
F003	2026-02-28	Chicken Worms	S14
F004	2026-10-20	Chicken Insects Mix	S18
F005	2026-10-10	Chicken Seeds	S20
F006	2026-12-05	Chicken Sunflower Seeds	S09
F007	2026-03-15	Chicken Oats	S13
F008	2026-09-30	Chicken Millet	S02
F009	2026-04-25	Chicken Rice	S06
F010	2026-11-01	Chicken Millet	S09
F011	2026-01-18	Chicken Rice	S13
F012	2026-11-30	Chicken Pumpkin Seeds	S14
F013	2026-05-05	Chicken Oats	S18
F014	2026-10-15	Chicken Sunflower Seeds	S20
F015	2026-02-10	Chicken Rice	S02
F016	2026-12-20	Chicken Seeds	S09
F017	2026-10-13	Chicken Pellets	S06
F018	2026-12-31	Chicken Worms	S13
F019	2026-03-01	Chicken Grains	S02
F020	2026-11-25	Chicken Insects Mix	S02

PART B: SQL & Normalization

1. Structured Query Language (SQL)

1.1 Create Database

```
CREATE DATABASE CHICKENFARM;
USE CHICKENFARM;
```

✓	86	17:50:32	CREATE DATABASE CHICKENFARM	1 row(s) affected	0.000 sec
✓	87	17:50:32	USE CHICKENFARM	0 row(s) affected	0.000 sec

1.2 Create Table

```
CREATE TABLE Farm(
    farmID VARCHAR(20) NOT NULL PRIMARY KEY,
    farmstore VARCHAR(50),
    coopqnty int,
    farmtemp Decimal(3,1)
);
CREATE TABLE Breed (
    breedid VARCHAR(5) NOT NULL PRIMARY KEY,
    breedname VARCHAR(20),
      Minimumbreedweight DECIMAL(4,1),
      Maximumbreedweight DECIMAL(4,1)
);
CREATE TABLE Chicken(
    chickenID VARCHAR(20) NOT NULL PRIMARY KEY,
    chickengender VARCHAR(50),
    chickenprice int,
    chickenweight decimal (2,1),
    farmid varchar(20),
    breedid varchar(10),
      Foreign key ( farmid) references FARM( farmid),
      Foreign key ( breedid) references  breed(  breedid )
);
CREATE TABLE Egg(
    eggNoSeries VARCHAR(20) NOT NULL PRIMARY KEY,
    eggGrade VARCHAR(2),
    eggType VARCHAR(10),
      chickenID VARCHAR(20),
      Foreign key ( chickenid) references  chicken(chickenid )
);
CREATE TABLE Customer (
     CustomerID VARCHAR(20) NOT NULL PRIMARY KEY,
    customerName VARCHAR(20),
    customerAddress VARCHAR(50),
    customerPhoneNumber VARCHAR(15),
    farmId VARCHAR(20),
      Foreign key ( farmid) references FARM( farmid)
);
```

```
CREATE TABLE product (
      ProductID VARCHAR(20) NOT NULL PRIMARY KEY,
      ProductType VARCHAR(50),
      FarmID VARCHAR (20),
      Price decimal(6,2),
      Foreign key ( farmid) references FARM( farmid)
);
CREATE TABLE Purchase (
    TransactionID VARCHAR(20) NOT NULL PRIMARY KEY,
    DatePurchase DATE,
    CustomerID VARCHAR(20),
    ProductID VARCHAR(20),
    Quantity INT,
    FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID),
    FOREIGN KEY (ProductID) REFERENCES Product(ProductID)
);
CREATE TABLE employee (
      EmployeeID VARCHAR(10) not null primary key,
      EmployeeName VARCHAR(30),
      EmployeeGender VARCHAR (10),
      EmployeeShift VARCHAR(20),
      FarmID VARCHAR(20),
      Foreign key ( farmid) references FARM( farmid)
);
CREATE TABLE Supplier (
    supplierid VARCHAR(5)  PRIMARY KEY,
    suppliername VARCHAR(20),
    suppliertype VARCHAR(20),
    farmid VARCHAR(20),
      Foreign key (farmid) references FARM( farmid)
);
CREATE TABLE medicine (
    MedicineID VARCHAR(5) PRIMARY KEY,
    MedicineType VARCHAR(20),
    MedicineDose VARCHAR(10),
    SupplierID VARCHAR(5),
      Foreign key ( SupplierID) references Supplier(SupplierID)
);

CREATE TABLE food (
    FoodNoSeries VARCHAR(5) PRIMARY KEY,
    FoodExpiredDate DATE,
    FoodType VARCHAR(50),
    SupplierID VARCHAR(5),
    FOREIGN KEY (SupplierID) REFERENCES supplier(SupplierID)
);
```

✔	88	17:53:01	CREATE TABLE Farm(farmID VARCHAR(20) NOT NULL PRIMARY KEY, farmstore V...	0 row(s) affected	0.094 sec
✔	89	17:53:02	CREATE TABLE Breed (breedid VARCHAR(5) NOT NULL PRIMARY KEY, breednam...	0 row(s) affected	0.031 sec
✔	90	17:53:02	CREATE TABLE Chicken(chickenID VARCHAR(20) NOT NULL PRIMARY KEY, chic...	0 row(s) affected	0.094 sec
✔	91	17:53:02	CREATE TABLE Egg(eggNoSeries VARCHAR(20) NOT NULL PRIMARY KEY, eggGr...	0 row(s) affected	0.062 sec
✔	92	17:53:02	CREATE TABLE Customer (CustomerID VARCHAR(20) NOT NULL PRIMARY KEY, cust...	0 row(s) affected	0.063 sec
✔	93	17:53:02	CREATE TABLE Product (ProductID VARCHAR(20) NOT NULL PRIMARY KEY, ProductT...	0 row(s) affected	0.078 sec
✔	94	17:53:02	CREATE TABLE Purchase (TransactionID VARCHAR(20) NOT NULL PRIMARY KEY, ...	0 row(s) affected	0.094 sec
✔	95	17:53:02	CREATE TABLE Employee (EmployeeID VARCHAR(10) not null primary key, EmployeeNam...	0 row(s) affected	0.078 sec
✔	96	17:53:02	CREATE TABLE Supplier (supplierid VARCHAR(5) PRIMARY KEY, suppliername VAR...	0 row(s) affected	0.094 sec
✔	97	17:53:02	CREATE TABLE medicine (MedicineID VARCHAR(5) PRIMARY KEY, MedicineType ...	0 row(s) affected	0.062 sec
✔	98	17:53:02	CREATE TABLE food (FoodNoSeries VARCHAR(5) PRIMARY KEY, FoodExpiredDate...	0 row(s) affected	0.047 sec

```
Show tables;
```

Result Grid | Filter Rows:

Tables_in_chickenfarm
breed
chicken
customer
egg
employee
farm
food
medicine
product
purchase
supplier

1.3 Insert and Print Data

```
insert into Farm value
('FARM001' , 'KL Store' ,'50' , '26.5'),
('FARM002','Penang Store','45','27.0'),
('FARM003', 'Johor Store', '28' ,'25.5'),
('FARM004','Selangor Store',' 55', '26.8'),
('FARM005', 'Kedah Store',' 48', '25.5'),
('FARM006','Perak Store', '52', '27.2'),
('FARM007', 'Sarawak Store' , '40' , '28.0'),
('FARM008' , 'KL Store' , '58', '26.5'),
('FARM009', 'Perlis Store', '42', '27.5'),
('FARM010', 'Pahang Store', '47', '26.0');

select*from farm;
```

Result Grid | Filter Rows:

farmID	farmstore	coopqnty	farmtemp
FARM001	KL Store	50	26.5
FARM002	Penang Store	45	27.0
FARM003	Johor Store	28	25.5
FARM004	Selangor Store	55	26.8
FARM005	Kedah Store	48	25.5
FARM006	Perak Store	52	27.2
FARM007	Sarawak Store	40	28.0
FARM008	KL Store	58	26.5
FARM009	Perlis Store	42	27.5
FARM010	Pahang Store	47	26.0
NULL	NULL	NULL	NULL

```
INSERT INTO Breed VALUES
('B101', 'Turkey', 8.0, 18.0),
('B102', 'Village Chicken', 0.9, 1.8),
('B103', 'FreeRange Chicken', 2.7, 2.6),
('B104', 'Broiler', 1.6, 3.0),
('B105', 'Sebright Chicken', 8.0, 18.0),
('B106', 'Barred Plymouth Rock', 0.9, 1.8),
('B107', 'Silkie Chicken', 2.7, 2.6),
('B108', 'Barred Plymouth Rock', 1.6, 3.0),
('B109', 'Rhode Island Red', 8.0, 18.0),
('B110', 'Serama', 0.9, 1.8);

select*from Breed;
```

Result Grid | Filter Rows: | Edit: | Export/I

breedid	breedname	Minimumbreedweight	Maximumbreedweight
B101	Turkey	8.0	18.0
B102	Village Chicken	0.9	1.8
B103	FreeRange Chicken	2.7	2.6
B104	Broiler	1.6	3.0
B105	Sebright Chicken	8.0	18.0
B106	Barred Plymouth Rock	0.9	1.8
B107	Silkie Chicken	2.7	2.6
B108	Barred Plymouth Rock	1.6	3.0
B109	Rhode Island Red	8.0	18.0
B110	Serama	0.9	1.8
NULL	NULL	NULL	NULL

```
INSERT INTO Chicken VALUES
('ch001', 'Male', 20.5, 2.3, 'FARM001', 'B101'),
('ch002', 'Female', 25.00, 3.0, 'FARM002', 'B102'),
('ch003', 'Male', 19.5, 2.1, 'FARM003', 'B103'),
('ch004', 'Female', 20.5, 2.3, 'FARM004', 'B104'),
('ch005', 'Male', 16.5, 1.5, 'FARM005', 'B105'),
('ch006', 'Female', 19.00, 2.0, 'FARM006', 'B106'),
('ch007', 'Male', 18.00, 1.8, 'FARM007', 'B107'),
('ch008', 'Female', 20.10, 2.2, 'FARM008', 'B108'),
('ch009', 'Male', 10.50, 1.2, 'FARM009', 'B109'),
('ch010', 'Female', 25.00, 3.0, 'FARM010', 'B110'),
('ch011', 'Male', 19.00, 2.0, 'FARM010', 'B101'),
('ch012', 'Female', 22.8, 2.6, 'FARM002', 'B102'),
('ch013', 'Male', 22.3, 2.5, 'FARM003', 'B103'),
('ch014', 'Female', 17.00, 1.6, 'FARM004', 'B104'),
('ch015', 'Male', 18.5, 1.9, 'FARM005', 'B105'),
('ch016', 'Female', 20.5, 2.3, 'FARM006', 'B106'),
('ch017', 'Male', 24.50, 2.8, 'FARM007', 'B107'),
('ch018', 'Female', 16.00, 1.4, 'FARM008', 'B108'),
('ch019', 'Male', 17.5, 1.7, 'FARM009', 'B109'),
('ch020', 'Female', 17.00, 1.6, 'FARM001', 'B110');

select*from Chicken;
```

Result Grid | Filter Rows: | Edit: | Export/Import:

chickenID	chickengender	chickenprice	chickenweight	farmid	breedid
ch001	Male	21	2.3	FARM001	B101
ch002	Female	25	3.0	FARM002	B102
ch003	Male	20	2.1	FARM003	B103
ch004	Female	21	2.3	FARM004	B104
ch005	Male	17	1.5	FARM005	B105
ch006	Female	19	2.0	FARM006	B106
ch007	Male	18	1.8	FARM007	B107
ch008	Female	20	2.2	FARM008	B108
ch009	Male	11	1.2	FARM009	B109
ch010	Female	25	3.0	FARM010	B110
ch011	Male	19	2.0	FARM010	B101
ch012	Female	23	2.6	FARM002	B102
ch013	Male	22	2.5	FARM003	B103
ch014	Female	17	1.6	FARM004	B104
ch015	Male	19	1.9	FARM005	B105
ch016	Female	21	2.3	FARM006	B106
ch013	Male	22	2.5	FARM003	B103
ch014	Female	17	1.6	FARM004	B104
ch015	Male	19	1.9	FARM005	B105
ch016	Female	21	2.3	FARM006	B106
ch017	Male	25	2.8	FARM007	B107
ch018	Female	16	1.4	FARM008	B108
ch019	Male	18	1.7	FARM009	B109
ch020	Female	17	1.6	FARM001	B110
NULL	NULL	NULL	NULL	NULL	NULL

```
INSERT INTO Egg VALUES
('E001', 'AA', 'Brown', 'ch001'),
('E002', 'AA', 'White', 'ch002'),
('E003', 'A', 'Brown', 'ch003'),
('E004', 'A', 'White', 'ch004'),
('E005', 'B', 'Brown', 'ch005'),
('E006', 'B', 'White', 'ch006'),
('E007', 'C', 'Brown', 'ch007'),
('E008', 'C', 'White', 'ch008'),
('E009', 'D', 'Brown', 'ch001'),
('E010', 'D', 'White', 'ch012'),
('E011', 'AA', 'Brown', 'ch011'),
('E012', 'AA', 'White', 'ch012'),
('E013', 'A', 'Brown', 'ch013'),
('E014', 'A', 'White', 'ch013'),
('E015', 'B', 'Brown', 'ch015'),
('E016', 'B', 'White', 'ch016'),
('E017', 'C', 'Brown', 'ch017'),
('E018', 'C', 'White', 'ch018'),
('E019', 'D', 'Brown', 'ch019'),
('E020', 'D', 'White', 'ch020'),
('E021', 'AA', 'Brown', 'ch011'),
('E022', 'AA', 'White', 'ch012'),
('E023', 'A', 'Brown', 'ch013'),
('E024', 'A', 'White', 'ch014'),
('E025', 'B', 'Brown', 'ch015');

select*from Egg;
```

eggNoSeries	eggGrade	eggType	chickenID
E001	AA	Brown	ch001
E002	AA	White	ch002
E003	A	Brown	ch003
E004	A	White	ch004
E005	B	Brown	ch005
E006	B	White	ch006
E007	C	Brown	ch007
E008	C	White	ch008
E009	D	Brown	ch001
E010	D	White	ch012
E011	AA	Brown	ch011
E012	AA	White	ch012
E013	A	Brown	ch013
E014	A	White	ch013
E015	B	Brown	ch015
E016	B	White	ch016
E017	C	Brown	ch017
E018	C	White	ch018
E019	D	Brown	ch019
E020	D	White	ch020
E021	AA	Brown	ch011
E022	AA	White	ch012
E023	A	Brown	ch013
E024	A	White	ch014
E025	B	Brown	ch015
NULL	NULL	NULL	NULL

```
INSERT INTO Customer VALUES
('C01', 'Ahmad bin Hassan', '12 Jalan Tun Fuad Stephens, Sabah', '012-
345-6789', 'FARM001'),
('C02', 'Siti binti Lim', '45 Jalan Kampung Nelayan, Sarawak', '019-
876-5432', 'FARM002'),
('C03', 'Tan Mei Ling', '78 Jalan Tun Ismail, Johor', '017-234-5678',
'FARM003'),
('C04', 'Wong Cheng', '90 Jalan Tun Abdul Razak, Pahang', '016-789-
0123', 'FARM004'),
('C05', 'Raja Shah', '33 Jalan Teluk Bahang, Penang', '014-567-8901',
'FARM005'),
('C06', 'Faridah Abdullah', '67 Jalan Tun Razak, Kuala Lumpur', '013-
890-1234', 'FARM006'),
('C07', 'Lim Wei Hong', '89 Jalan Sultan Ismail, Perak', '011-234-
5678', 'FARM007'),
('C08', 'Nurul Aminah', '22 Jalan Teluk Cempedak, Kelantan', '018-765-
4321', 'FARM008'),
('C09', 'Abdul Rahman', '55 Jalan Tun Hussein, Selangor', '019-321-
0987', 'FARM009'),
('C10', 'Nisha Devi', '88 Jalan Kampung Laut, Terengganu', '012-654-
3210', 'FARM010'),
('C11', 'Rajesh Kumar', '17 Jalan Tun Ali, Kedah', '016-098-7654',
'FARM001'),
('C12', 'Aisha Abdullah', '25 Jalan Dato Onn, Melaka', '013-543-2109',
'FARM002'),
('C13', 'Lim Wei Xiang', '37 Jalan Tanjung Lipat, Sabah', '011-876-
5432', 'FARM003'),
('C14', 'Nurul Husna', '44 Jalan Tunku Abdul Rahman, Sarawak', '017-
234-5678', 'FARM004'),
('C15', 'Hafiz bin Ismail', '61 Jalan Bunga Raya, Johor', '019-765-
4321', 'FARM005'),
('C16', 'Wong Li Ming', '73 Jalan Sultan Ahmad Shah, Pahang', '014-
321-0987', 'FARM006'),
('C17', 'Tan Siew Peng', '82 Jalan Kebun Sultan, Penang', '012-654-
3210', 'FARM007'),
('C18', 'Sharvin Raj', '93 Jalan Ipoh, Kuala Lumpur', '016-098-7654',
'FARM008'),
('C19', 'Liew Wei Xuan', '29 Jalan Bukit Melaka, Perak', '013-543-
2109', 'FARM010'),
('C20', 'Nurul Ain', '48 Jalan Bukit Tunggal, Kelantan', '011-876-
5432', 'FARM002');

select*from Customer;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

customerId	customerName	customerAddress	customerPhoneNumber	farmId	productId
C01	Ahmad bin Hassan	12 Jalan Tun Fuad Stephens, Sabah	012-345-6789	FARM001	P201
C02	Siti binti Lim	45 Jalan Kampung Nelayan, Sarawak	019-876-5432	FARM002	P202
C03	Tan Mei Ling	78 Jalan Tun Ismail, Johor	017-234-5678	FARM003	P203
C04	Wong Cheng	90 Jalan Tun Abdul Razak, Pahang	016-789-0123	FARM004	P204
C05	Raja Shah	33 Jalan Teluk Bahang, Penang	014-567-8901	FARM005	P205
C06	Faridah Abdullah	67 Jalan Tun Razak, Kuala Lumpur	013-890-1234	FARM006	P206
C07	Lim Wei Hong	89 Jalan Sultan Ismail, Perak	011-234-5678	FARM007	P207
C08	Nurul Aminah	22 Jalan Teluk Cempedak, Kelantan	018-765-4321	FARM008	P208
C09	Abdul Rahman	55 Jalan Tun Hussein, Selangor	019-321-0987	FARM009	P209
C10	Nisha Devi	88 Jalan Kampung Laut, Terengganu	012-654-3210	FARM010	P210
C11	Rajesh Kumar	17 Jalan Tun Ali, Kedah	016-098-7654	FARM011	P211
C12	Aisha Abdullah	25 Jalan Dato Onn, Melaka	013-543-2109	FARM012	P212
C13	Lim Wei Xiang	37 Jalan Tanjung Lipat, Sabah	011-876-5432	FARM013	P213
C14	Nurul Husna	44 Jalan Tunku Abdul Rahman, Sara...	017-234-5678	FARM014	P214
C15	Hafiz bin Ismail	61 Jalan Bunga Raya, Johor	019-765-4321	FARM015	P215
C16	Wong Li Ming	73 Jalan Sultan Ahmad Shah, Pahang	014-321-0987	FARM016	P216
C15	Hafiz bin Ismail	61 Jalan Bunga Raya, Johor	019-765-4321	FARM015	P215
C16	Wong Li Ming	73 Jalan Sultan Ahmad Shah, Pahang	014-321-0987	FARM016	P216
C17	Tan Siew Peng	82 Jalan Kebun Sultan, Penang	012-654-3210	FARM017	P217
C18	Sharvin Raj	93 Jalan Ipoh, Kuala Lumpur	016-098-7654	FARM018	P218
C19	Liew Wei Xuan	29 Jalan Bukit Melaka, Perak	013-543-2109	FARM019	P219
C20	Nurul Ain	48 Jalan Bukit Tunggal, Kelantan	011-876-5432	FARM020	P220
NULL	NULL	NULL	NULL	NULL	NULL

```
INSERT INTO Product VALUES
('P101', 'Lives Chicken', 'FARM001', 9.00),
('P202', 'Frozen Chicken', 'FARM002', 15.00),
('P303', 'Egg', 'FARM003', 0.50),
('P401', 'Coop Cleaners', 'FARM004', 27.00),
('P502', 'Poultry Feed', 'FARM005', 130.00),
('P603', 'Waste Management', 'FARM006', 150.50),
('P701', 'Heat Lamps', 'FARM007', 40.00),
('P802', 'Egg Collection Baskets', 'FARM008', 15.00),
('P903', 'Pest Control Supplies', 'FARM009', 90.00),
('P1001', 'Nesting Boxes', 'FARM010', 70.00);

select*from Product;
```

ProductID	ProductType	FarmID	Price
P1001	Nesting Boxes	FARM010	70.00
P101	Lives Chicken	FARM001	9.00
P202	Frozen Chicken	FARM002	15.00
P303	Egg	FARM003	0.50
P401	Coop Cleaners	FARM004	27.00
P502	Poultry Feed	FARM005	130.00
P603	Waste Management	FARM006	150.50
P701	Heat Lamps	FARM007	40.00
P802	Egg Collection Baskets	FARM008	15.00
P903	Pest Control Supplies	FARM009	90.00
NULL	NULL	NULL	NULL

```
INSERT INTO Purchase  VALUES
('T01', '2023-12-31', 'C01', 'P101', 3),
('T02', '2023-12-31', 'C01', 'P202', 8),
('T03', '2023-02-28', 'C04', 'P303', 20),
('T04', '2023-10-20', 'C02', 'P401', 1),
('T05', '2023-10-10', 'C02', 'P502', 2),
('T06', '2023-12-05', 'C05', 'P603', 1),
('T07', '2023-03-15', 'C03', 'P701', 2),
('T08', '2023-09-30', 'C06', 'P802', 2),
('T09', '2023-04-25', 'C07', 'P903', 3),
('T10', '2023-11-01', 'C08', 'P1001', 4),
('T11', '2023-01-18', 'C09', 'P101', 14),
('T12', '2023-11-30', 'C10', 'P202', 5),
('T13', '2023-05-05', 'C11', 'P303', 23),
('T14', '2023-10-15', 'C12', 'P401', 1),
('T15', '2023-02-10', 'C12', 'P502', 2),
('T16', '2023-12-20', 'C14', 'P603', 1),
('T17', '2023-10-13', 'C15', 'P701', 1),
('T18', '2023-12-31', 'C16', 'P802', 3),
('T19', '2023-03-01', 'C18', 'P903', 2),
('T20', '2023-11-25', 'C19', 'P1001', 3),
('T21', '2023-11-15', 'C20', 'P101', 3),
('T22', '2023-02-26', 'C20', 'P202', 2),
('T23', '2023-03-19', 'C14', 'P401', 2),
('T24', '2023-05-09', 'C07', 'P1001', 1),
('T25', '2023-09-22', 'C14', 'P701', 1),
('T26', '2023-10-13', 'C05', 'P802', 1),
('T27', '2023-11-29', 'C02', 'P603', 2);
```

```
select*from Purchase;
```

TransactionID	DatePurchase	CustomerID	ProductID	Quantity
T01	2023-12-31	C01	P101	3
T02	2023-12-31	C01	P202	8
T03	2023-02-28	C04	P303	20
T04	2023-10-20	C02	P401	1
T05	2023-10-10	C02	P502	2
T06	2023-12-05	C05	P603	1
T07	2023-03-15	C03	P701	2
T08	2023-09-30	C06	P802	2
T09	2023-04-25	C07	P903	3
T10	2023-11-01	C08	P1001	4
T11	2023-01-18	C09	P101	14
T12	2023-11-30	C10	P202	5
T13	2023-05-05	C11	P303	23
T14	2023-10-15	C12	P401	1
T15	2023-02-10	C12	P502	2
T16	2023-12-20	C14	P603	1

```
INSERT INTO Employee VALUES
('E1001', 'Emran bin Hassan', 'Male', 'Day Shift', 'FARM001'),
('E1002', 'Azalea binti Abdullah', 'Female', 'Night Shift',
'FARM002'),
('E1003', 'Tan Wei Jie', 'Male', 'Evening Shift', 'FARM003'),
('E1004', 'Nor Aishah', 'Female', 'Day Shift', 'FARM004'),
('E1005', 'Mohd Azlan', 'Male', 'Night Shift', 'FARM005'),
('E1006', 'Lim Mei Ling', 'Female', 'Evening Shift', 'FARM006'),
('E1007', 'Raj Kumar', 'Male', 'Day Shift', 'FARM007'),
('E1008', 'Anisah Abdullah', 'Female', 'Night Shift', 'FARM008'),
('E1009', 'Lee Kah Wai', 'Male', 'Evening Shift', 'FARM009'),
('E1010', 'Nurul Huda', 'Female', 'Day Shift', 'FARM010'),
('E1011', 'Tan Kok Leong', 'Male', 'Night Shift', 'FARM001'),
('E1012', 'Tan Mei Yen', 'Female', 'Evening Shift', 'FARM002'),
('E1013', 'Arul Raj', 'Male', 'Day Shift', 'FARM003'),
('E1014', 'Wong Mei Lin', 'Female', 'Night Shift', 'FARM004'),
('E1015', 'Lim Wei Shen', 'Male', 'Evening Shift', 'FARM005'),
('E1016', 'Nurul Syafiqah', 'Female', 'Day Shift', 'FARM006'),
('E1017', 'Ganesh Kumar', 'Male', 'Night Shift', 'FARM007'),
('E1018', 'Hafizah Mohd Isa', 'Female', 'Evening Shift', 'FARM008'),
('E1019', 'Ahmad Farid', 'Male', 'Day Shift', 'FARM009'),
('E1020', 'Mei Mei', 'Female', 'Night Shift', 'FARM010');

select*from Employee;
```

EmployeeID	EmployeeName	EmployeeGender	EmployeeShift	FarmID
E1001	Emran bin Hassan	Male	Day Shift	FARM001
E1002	Azalea binti Abdullah	Female	Night Shift	FARM002
E1003	Tan Wei Jie	Male	Evening Shift	FARM003
E1004	Nor Aishah	Female	Day Shift	FARM004
E1005	Mohd Azlan	Male	Night Shift	FARM005
E1006	Lim Mei Ling	Female	Evening Shift	FARM006
E1007	Raj Kumar	Male	Day Shift	FARM007
E1008	Anisah Abdullah	Female	Night Shift	FARM008
E1009	Lee Kah Wai	Male	Evening Shift	FARM009
E1010	Nurul Huda	Female	Day Shift	FARM010
E1011	Tan Kok Leong	Male	Night Shift	FARM001
E1012	Tan Mei Yen	Female	Evening Shift	FARM002
E1013	Arul Raj	Male	Day Shift	FARM003
E1014	Wong Mei Lin	Female	Night Shift	FARM004
E1015	Lim Wei Shen	Male	Evening Shift	FARM005
E1016	Nurul Syafiqah	Female	Day Shift	FARM006
E1017	Ganesh Kumar	Male	Night Shift	FARM007
E1018	Hafizah Mohd Isa	Female	Evening Shift	FARM008
E1019	Ahmad Farid	Male	Day Shift	FARM009
E1020	Mei Mei	Female	Night Shift	FARM010
NULL	NULL	NULL	NULL	NULL

```
INSERT INTO Supplier VALUES
('S01', 'MediCure', 'Medicine', 'FARM001'),
('S02', 'XYZ Foods', 'Food', 'FARM002'),
('S03', 'EcoBite', 'Food', 'FARM003'),
('S04', 'PoultryPro', 'Chicken', 'FARM004'),
('S05', 'NutriFeeds', 'Chicken', 'FARM005'),
('S06', 'EcoBite', 'Food', 'FARM006'),
('S07', 'MediCure', 'Medicine', 'FARM007'),
('S08', 'PharmaHealth', 'Medicine', 'FARM008'),
('S09', 'XYZ Foods', 'Food', 'FARM009'),
('S10', 'PoultryPro', 'Chicken', 'FARM010'),
('S11', 'NutriFeeds', 'Chicken', 'FARM001'),
('S12', 'PharmaHealth', 'Medicine', 'FARM002'),
('S13', 'MediCure', 'Medicine', 'FARM003'),
('S14', 'XYZ Foods', 'Food', 'FARM004'),
('S15', 'PharmaHealth', 'Medicine', 'FARM005'),
('S16', 'PoultryPro', 'Chicken', 'FARM006'),
('S17', 'NutriFeeds', 'Chicken', 'FARM007'),
('S18', 'EcoBite', 'Food', 'FARM008'),
('S19', 'MediCure', 'Medicine', 'FARM009'),
('S20', 'XYZ Foods', 'Food', 'FARM010');

select*from supplier;
```

supplierid	suppliername	suppliertype	farmid
S01	MediCure	Medicine	FARM001
S02	XYZ Foods	Food	FARM002
S03	EcoBite	Food	FARM003
S04	PoultryPro	Chicken	FARM004
S05	NutriFeeds	Chicken	FARM005
S06	EcoBite	Food	FARM006
S07	MediCure	Medicine	FARM007
S08	PharmaHealth	Medicine	FARM008
S09	XYZ Foods	Food	FARM009
S10	PoultryPro	Chicken	FARM010
S11	NutriFeeds	Chicken	FARM001
S12	PharmaHealth	Medicine	FARM002
S13	MediCure	Medicine	FARM003
S14	XYZ Foods	Food	FARM004
S15	PharmaHealth	Medicine	FARM005
S16	PoultryPro	Chicken	FARM006
S17	NutriFeeds	Chicken	FARM007
S18	EcoBite	Food	FARM008
S19	MediCure	Medicine	FARM009
S20	XYZ Foods	Food	FARM010
NULL	NULL	NULL	NULL

```
INSERT INTO Medicine VALUES
('M01', 'Vaccine', 50, 'S01'),
('M02', 'Antibiotic', 25, 'S03'),
('M03', 'Sanitation', 5, 'S07'),
('M04', 'Vaccine', 75, 'S05'),
('M05', 'Antibiotic', 30, 'S09'),
('M06', 'Sanitation', 10, 'S08'),
('M07', 'Vaccine', 60, 'S02'),
('M08', 'Antibiotic', 20, 'S01'),
('M09', 'Sanitation', 8, 'S02'),
('M010', 'Vaccine', 40, 'S03'),
('M011', 'Antibiotic', 15, 'S05'),
('M012', 'Sanitation', 6, 'S08'),
('M013', 'Vaccine', 55, 'S09'),
('M014', 'Antibiotic', 22, 'S01'),
('M015', 'Sanitation', 7, 'S03'),
('M016', 'Vaccine', 70, 'S01'),
('M017', 'Antibiotic', 18, 'S01'),
('M018', 'Sanitation', 9, 'S03'),
('M019', 'Vaccine', 45, 'S01'),
('M020', 'Antibiotic', 12, 'S01');

select*from Medicine;
```

MedicineID	MedicineType	MedicineDose	SupplierID
M01	Vaccine	50	S01
M010	Vaccine	40	S03
M011	Antibiotic	15	S05
M012	Sanitation	6	S08
M013	Vaccine	55	S09
M014	Antibiotic	22	S01
M015	Sanitation	7	S03
M016	Vaccine	70	S01
M017	Antibiotic	18	S01
M018	Sanitation	9	S03
M019	Vaccine	45	S01
M02	Antibiotic	25	S03
M020	Antibiotic	12	S01
M03	Sanitation	5	S07
M04	Vaccine	75	S05
M05	Antibiotic	30	S09
M06	Sanitation	10	S08
M07	Vaccine	60	S02
M08	Antibiotic	20	S01
M09	Sanitation	8	S02
NULL	NULL	NULL	NULL

```
INSERT INTO Food VALUES
('F001', '2026-12-31', 'Chicken Pellets', 'S02'),
('F002', '2026-11-15', 'Chicken Grains', 'S06'),
('F003', '2026-02-28', 'Chicken Worms', 'S14'),
('F004', '2026-10-20', 'Chicken Insects Mix', 'S18'),
('F005', '2026-10-10', 'Chicken Seeds', 'S20'),
('F006', '2026-12-05', 'Chicken Sunflower Seeds', 'S09'),
('F007', '2026-03-15', 'Chicken Oats', 'S13'),
('F008', '2026-09-30', 'Chicken Millet', 'S02'),
('F009', '2026-04-25', 'Chicken Rice', 'S06'),
('F010', '2026-11-01', 'Chicken Millet', 'S09'),
('F011', '2026-01-18', 'Chicken Rice', 'S13'),
('F012', '2026-11-30', 'Chicken Pumpkin Seeds', 'S14'),
('F013', '2026-05-05', 'Chicken Oats', 'S18'),
('F014', '2026-10-15', 'Chicken Sunflower Seeds', 'S20'),
('F015', '2026-02-10', 'Chicken Rice', 'S02'),
('F016', '2026-12-20', 'Chicken Seeds', 'S09'),
('F017', '2026-10-13', 'Chicken Pellets', 'S06'),
('F018', '2026-12-31', 'Chicken Worms', 'S13'),
('F019', '2026-03-01', 'Chicken Grains', 'S02'),
('F020', '2026-11-25', 'Chicken Insects Mix', 'S02');
```

```
select*from Food;
```

foodNoSeries	foodExpiredDate	foodType	supplierID
F001	2026-12-31	Chicken Pellets	S02
F002	2026-11-15	Chicken Grains	S06
F003	2026-02-28	Chicken Worms	S14
F004	2026-10-20	Chicken Insects Mix	S18
F005	2026-10-10	Chicken Seeds	S20
F006	2026-12-05	Chicken Sunflower Seeds	S09
F007	2026-03-15	Chicken Oats	S13
F008	2026-09-30	Chicken Millet	S02
F009	2026-04-25	Chicken Rice	S06
F010	2026-11-01	Chicken Millet	S09
F011	2026-01-18	Chicken Rice	S13
F012	2026-11-30	Chicken Pumpkin Seeds	S14
F013	2026-05-05	Chicken Oats	S18
F014	2026-10-15	Chicken Sunflower Seeds	S20
F015	2026-02-10	Chicken Rice	S02
F016	2026-12-20	Chicken Seeds	S09
F017	2026-10-13	Chicken Pellets	S06
F018	2026-12-31	Chicken Worms	S13
F019	2026-03-01	Chicken Grains	S02
F020	2026-11-25	Chicken Insects Mix	S02
NULL	NULL	NULL	NULL

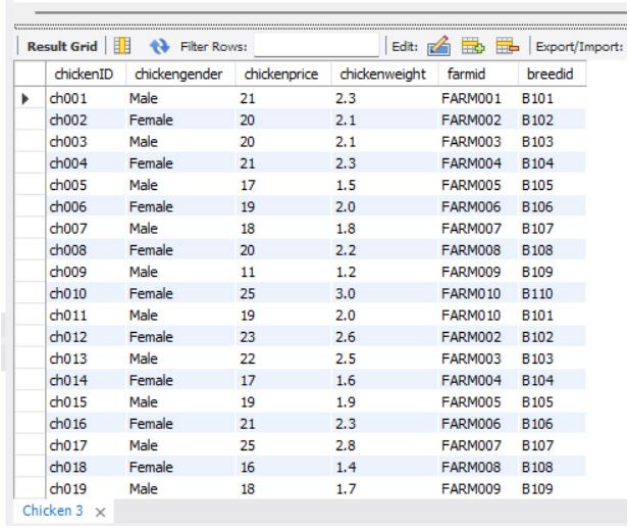
99	17:55:07	insert into Farm value ('FARM001' , 'KL Store' ,'50' , '26.5'), ('FARM002','Penang Store','45','...	10 row(s) affected Records: 10	Duplicates: 0	Warnings: 0	0.047 sec
100	17:55:07	INSERT INTO Breed VALUES ('B101', 'Turkey', 8.0, 18.0), ('B102', 'Village Chicken', 0.9, 1....	10 row(s) affected Records: 10	Duplicates: 0	Warnings: 0	0.015 sec
101	17:55:07	INSERT INTO Chicken VALUES ('ch001', 'Male', 20.5, 2.3, 'FARM001', 'B101'), ('ch002', 'F...	20 row(s) affected Records: 20	Duplicates: 0	Warnings: 0	0.016 sec
102	17:55:07	INSERT INTO Egg VALUES ('E001', 'AA', 'Brown', 'ch001'), ('E002', 'AA', 'White', 'ch002'), ('...	25 row(s) affected Records: 25	Duplicates: 0	Warnings: 0	0.015 sec
103	17:55:07	INSERT INTO Customer VALUES ('C01', 'Ahmad bin Hassan', '12 Jalan Tun Fuad Stephens...	20 row(s) affected Records: 20	Duplicates: 0	Warnings: 0	0.016 sec
104	17:55:07	INSERT INTO Product VALUES ('P101', 'Lives Chicken', 'FARM001', 9.00), ('P202', 'Frozen...	10 row(s) affected Records: 10	Duplicates: 0	Warnings: 0	0.016 sec
105	17:55:07	INSERT INTO Purchase VALUES ('T01', '2023-12-31', 'C01', 'P101', 3), ('T02', '2023-12-31',...	27 row(s) affected Records: 27	Duplicates: 0	Warnings: 0	0.015 sec
106	17:55:07	INSERT INTO Employee VALUES ('E1001', 'Emran bin Hassan', 'Male', 'Day Shift', 'FARM0...	20 row(s) affected Records: 20	Duplicates: 0	Warnings: 0	0.016 sec
107	17:55:07	INSERT INTO Supplier VALUES ('S01', 'MediCure', 'Medicine', 'FARM001'), ('S02', 'XYZ Fo...	20 row(s) affected Records: 20	Duplicates: 0	Warnings: 0	0.000 sec
108	17:55:07	INSERT INTO Medicine VALUES ('M01', 'Vaccine', 50, 'S01'), ('M02', 'Antibiotic', 25, 'S03'), ...	20 row(s) affected Records: 20	Duplicates: 0	Warnings: 0	0.000 sec
109	17:55:07	INSERT INTO Food VALUES ('F001', '2026-12-31', 'Chicken Pellets', 'S02'), ('F002', '2026-1...	20 row(s) affected Records: 20	Duplicates: 0	Warnings: 0	0.015 sec

2. SQL Query using Data Manipulation Language (DML)

2.1 Update

Question : The Chicken price for ch002 has change to RM20.00 since the weight have been change to 2.1 kg. Update the table with the new information.

```
UPDATE Chicken
SET  chickenprice = '20.00' , chickenweight= '2.1'
WHERE chickenID = 'ch002' ;
```



Result Grid | Filter Rows: | Edit: | Export/Import:

chickenID	chickengender	chickenprice	chickenweight	farmid	breedid
ch001	Male	21	2.3	FARM001	B101
ch002	Female	20	2.1	FARM002	B102
ch003	Male	20	2.1	FARM003	B103
ch004	Female	21	2.3	FARM004	B104
ch005	Male	17	1.5	FARM005	B105
ch006	Female	19	2.0	FARM006	B106
ch007	Male	18	1.8	FARM007	B107
ch008	Female	20	2.2	FARM008	B108
ch009	Male	11	1.2	FARM009	B109
ch010	Female	25	3.0	FARM010	B110
ch011	Male	19	2.0	FARM010	B101
ch012	Female	23	2.6	FARM002	B102
ch013	Male	22	2.5	FARM003	B103
ch014	Female	17	1.6	FARM004	B104
ch015	Male	19	1.9	FARM005	B105
ch016	Female	21	2.3	FARM006	B106
ch017	Male	25	2.8	FARM007	B107
ch018	Female	16	1.4	FARM008	B108
ch019	Male	18	1.7	FARM009	B109

Chicken 3

Question : change the expiry date at table food to 2026-11-10 since the supplier have miswrote it .

Before update

FoodNoSeries	FoodExpiredDate	FoodType	SupplierID
F001	2026-12-31	Chicken Pellets	S02
F002	2026-11-15	Chicken Grains	S06
F003	2026-02-28	Chicken Worms	S14
F004	2026-10-20	Chicken Insects Mix	S18
F005	2026-10-10	Chicken Seeds	S20
F006	2026-12-05	Chicken Sunflower Seeds	S09
F007	2026-03-15	Chicken Oats	S13
F008	2026-09-30	Chicken Millet	S02
F009	2026-04-25	Chicken Rice	S06
F010	2026-11-01	Chicken Millet	S09
F011	2026-01-18	Chicken Rice	S13
F012	2026-11-30	Chicken Pumpkin Seeds	S14
F013	2026-05-05	Chicken Oats	S18
F014	2026-10-15	Chicken Sunflower Seeds	S20
F015	2026-02-10	Chicken Rice	S02
F016	2026-12-20	Chicken Seeds	S09
F017	2026-10-13	Chicken Pellets	S06
F018	2026-12-31	Chicken Worms	S13
F019	2026-03-01	Chicken Grains	S02

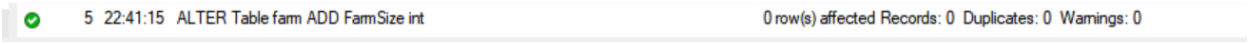
After Update

```
Update food
Set FoodExpiredDate = '2026-11-10'
WHERE FoodNoSeries = 'F010';
```

FoodNoSeries	FoodExpiredDate	FoodType	SupplierID
F001	2026-12-31	Chicken Pellets	S02
F002	2026-11-15	Chicken Grains	S06
F003	2026-02-28	Chicken Worms	S14
F004	2026-10-20	Chicken Insects Mix	S18
F005	2026-10-10	Chicken Seeds	S20
F006	2026-12-05	Chicken Sunflower Seeds	S09
F007	2026-03-15	Chicken Oats	S13
F008	2026-09-30	Chicken Millet	S02
F009	2026-04-25	Chicken Rice	S06
F010	2026-11-10	Chicken Millet	S09
F011	2026-01-18	Chicken Rice	S13
F012	2026-11-30	Chicken Pumpkin Seeds	S14
F013	2026-05-05	Chicken Oats	S18
F014	2026-10-15	Chicken Sunflower Seeds	S20
F015	2026-02-10	Chicken Rice	S02
F016	2026-12-20	Chicken Seeds	S09
F017	2026-10-13	Chicken Pellets	S06
F018	2026-12-31	Chicken Worms	S13

Question: Add a new column into farm table called FarmSize to get the overview of the area in each farm in unit Hectares:

```
ALTER Table farm
ADD FarmSize int;
```



Question: Update the Farm Size follow the table below

FarmID	FarmSize (Hectares)
FARM001	20
FARM002	18
FARM003	11
FARM004	22
FARM005	19
FARM006	21
FARM007	16
FARM008	23
FARM009	17
FARM010	19

```
UPDATE Farm
SET Farmsize = 20 WHERE FarmID = 'FARM001';
UPDATE Farm
SET Farmsize = 18 WHERE FarmID = 'FARM002';
UPDATE Farm
SET Farmsize = 11 WHERE FarmID = 'FARM003';
UPDATE Farm
SET Farmsize = 22 WHERE FarmID = 'FARM004';
UPDATE Farm
SET Farmsize = 19 WHERE FarmID = 'FARM005';
UPDATE Farm
SET Farmsize = 21 WHERE FarmID = 'FARM006';
UPDATE Farm
SET Farmsize = 16 WHERE FarmID = 'FARM007';
UPDATE Farm
SET Farmsize = 23 WHERE FarmID = 'FARM008';
UPDATE Farm
SET Farmsize = 17 WHERE FarmID = 'FARM009';
UPDATE Farm
SET Farmsize = 19 WHERE FarmID = 'FARM010';
```

farmID	farmstore	coopqnty	farmtemp	FarmSize
FARM001	KL Store	50	26.5	20
FARM002	Penang Store	45	27.0	18
FARM003	Johor Store	28	25.5	11
FARM004	Selangor Store	55	26.8	22
FARM005	Kedah Store	48	2[illegible]	19
FARM006	Perak Store	52	27.2	21
FARM007	Sarawak Store	40	28.0	16
FARM008	KL Store	58	26.5	23
FARM009	Perlis Store	42	27.5	17

2.2 Delete

Question : It has been determined that the employee 'E002' is no longer employed by the company, please delete the information about the employee to keep the operational efficiency.

```
DELETE FROM Employee WHERE
EmployeeID='E1002';
select * from Employee;
```

Before update

EmployeeID	EmployeeName	EmployeeGender	EmployeeShift	FarmID
E1001	Emran bin Hassan	Male	Day Shift	FARM001
E1002	Azalea binti Abdullah	Female	Night Shift	FARM002
E1003	Tan Wei Jie	Male	Evening Shift	FARM003
E1004	Nor Aishah	Female	Day Shift	FARM004
E1005	Mohd Azlan	Male	Night Shift	FARM005
E1006	Lim Mei Ling	Female	Evening Shift	FARM006
E1007	Raj Kumar	Male	Day Shift	FARM007
E1008	Anisah Abdullah	Female	Night Shift	FARM008
E1009	Lee Kah Wai	Male	Evening Shift	FARM009
E1010	Nurul Huda	Female	Day Shift	FARM010
E1011	Tan Kok Leong	Male	Night Shift	FARM001
E1012	Tan Mei Yen	Female	Evening Shift	FARM002

employee 13 ×

After update

Result Grid | Filter Rows: | Edit: | Export/Import:

EmployeeID	EmployeeName	EmployeeGender	EmployeeShift	FarmID
E1001	Emran bin Hassan	Male	Day Shift	FARM001
E1003	Tan Wei Jie	Male	Evening Shift	FARM003
E1004	Nor Aishah	Female	Day Shift	FARM004
E1005	Mohd Azlan	Male	Night Shift	FARM005
E1006	Lim Mei Ling	Female	Evening Shift	FARM006
E1007	Raj Kumar	Male	Day Shift	FARM007
E1008	Anisah Abdullah	Female	Night Shift	FARM008
E1009	Lee Kah Wai	Male	Evening Shift	FARM009
E1010	Nurul Huda	Female	Day Shift	FARM010
E1011	Tan Kok Leong	Male	Night Shift	FARM001
E1012	Tan Mei Yen	Female	Evening Shift	FARM002

2.3 Where/ Having/ Group By/ And/ Or/ Between/ Like/ Order By

Question:Display the chickens that weight more than 2.5kg

```
select chickenid, chickenweight
from chicken
where chickenweight >2.5;
```

Result Grid | Filter Rows:

chickenid	chickenweight
ch002	3.0
ch010	3.0
ch012	2.6
ch017	2.8

Question: Retrieve the names of customers who made a purchase before April 1, 2023, and also find the total quantity of products they have purchased.

```
SELECT c.customerName, sum(p.Quantity) as 'Total Quantity',
p.datepurchase

FROM Customer c, Purchase p

WHERE C.CustomerID = P.CustomerID

and p.DatePurchase < '2023-04-01'

group by  p.TransactionID

order by p.Quantity desc;
```

Result Grid | Filter Rows: | Exp

customerName	Total Quantity	datepurchase
Wong Cheng	20	2023-02-28
Abdul Rahman	14	2023-01-18
Tan Mei Ling	2	2023-03-15
Aisha Abdullah	2	2023-02-10
Sharvin Raj	2	2023-03-01
Nurul Ain	2	2023-02-26
Nurul Husna	2	2023-03-19

Question: Retrieve the names of customers who have made more than one purchase after 1 October 2023. List the customer names along with the count of their purchases.

```
SELECT customerName, COUNT(TransactionID) as PurchaseCount

FROM Customer

JOIN Purchase ON Customer.CustomerID = Purchase.CustomerID

WHERE DatePurchase > '2023-10-01'

GROUP BY customerName

HAVING PurchaseCount > 1;
```

Result Grid | Filter Rows:

customerName	PurchaseCount
Ahmad bin Hassan	2
Siti binti Lim	3
Raja Shah	2

Question: Display the addresses of customers located in Pahang from the customer table.

```
SELECT c.customerAddress

FROM customer c

WHERE c.customerAddress like '%Pahang'

GROUP BY c.customerAddress;
```

Result Grid | Filter Rows:

customerAddress
90 Jalan Tun Abdul Razak, Pahang
73 Jalan Sultan Ahmad Shah, Pahang

Question : Retrieve the names of all food items and their expiration dates where the expiration date is between '2026-01-01' and '2026-06-30'.

```
SELECT FoodType, FoodExpiredDate
FROM Food
WHERE FoodExpiredDate
BETWEEN '2026-01-01' AND '2026-06-30'
ORDER BY FoodExpiredDate ASC;
```

FoodType	FoodExpiredDate
Chicken Rice	2026-01-18
Chicken Rice	2026-02-10
Chicken Worms	2026-02-28
Chicken Grains	2026-03-01
Chicken Oats	2026-03-15
Chicken Rice	2026-04-25
Chicken Oats	2026-05-05

Question: Display the employee named Tan Wei Jie who work on evening shift and male.

```
SELECT * FROM Employee
WHERE EmployeeName = 'Tan Wei Jie'
AND EmployeeShift = 'Evening Shift'
AND EmployeeGender = 'Male';
```

Result Grid | Filter Rows: | Edit: | Export/Import

EmployeeID	EmployeeName	EmployeeGender	EmployeeShift	FarmID
E1003	Tan Wei Jie	Male	Evening Shift	FARM003
NULL	NULL	NULL	NULL	NULL

Question : Emran bin Hassan want to collect only egg which is grade A or grade AA . Please help Emran identify which chicken has egg grade A or grade AA

```
SELECT chickenID , eggGrade
FROM Egg
WHERE eggGrade='AA' OR eggGrade='A';
```

Result Grid | Filter Rows:

chickenID	eggGrade
ch001	AA
ch002	AA
ch003	A
ch004	A
ch011	AA
ch012	AA
ch013	A
ch013	A

ch011	AA
ch012	AA
ch013	A
ch014	A

Question : Display the customer name, total quantity and date of their purchase where in month November and December, sort with the highest of the quantity purchased.

```
SELECT c.customerName, sum(p.Quantity) as 'Total Quantity',
p.datepurchase
FROM Customer c, Purchase p
WHERE C.CustomerID = P.CustomerID
and p.DatePurchase > '2023-11-01'
group by  p.TransactionID
order by p.Quantity desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customerName	Total Quantity	datepurchase
Ahmad bin Hassan	8	2023-12-31
Nisha Devi	5	2023-11-30
Ahmad bin Hassan	3	2023-12-31
Wong Li Ming	3	2023-12-31
Liew Wei Xuan	3	2023-11-25
Nurul Ain	3	2023-11-15
Siti binti Lim	2	2023-11-29
Raja Shah	1	2023-12-05
Nurul Husna	1	2023-12-20

2.4 Aggregate Function: Min, Max, Avg, Count, Sum

Question : In order to observe the egg quality across the farm, display egg count for each grade.

```
select e.egggrade as 'Egg Grade', count(c.chickenid) as 'Total
chicken'
from chicken c, egg e
where c.chickenid=e.chickenid
group by e.egggrade
order by count(c.chickenid) desc;
```

Result Grid | Filter Rows:

Egg Grade	Total chicken
AA	6
A	6
B	5
C	4
D	4

Question : Display the total price by calculating for each purchase transaction by multiplying the quantity of products purchased by their respective prices.

```
select pu.TransactionId, pro.productid,pu.quantity,
pro.price as 'price per unit',
sum(pu.quantity*pro.price) as totalprice
from purchase pu, product pro
where pu.productid=pro.productid
group by pu.TransactionId;
```

TransactionId	productid	quantity	price per unit	totalprice
T10	P1001	4	70.00	280.00
T20	P1001	3	70.00	210.00
T24	P1001	1	70.00	70.00
T01	P101	3	9.00	27.00
T11	P101	14	9.00	126.00
T21	P101	3	9.00	27.00
T02	P202	8	15.00	120.00
T12	P202	5	15.00	75.00

Question: Display quantity of chicken breed based on breed name in descending order

```
SELECT b.breedname, COUNT(c.chickenid) as Quantity
FROM chicken c, breed b
WHERE c.breedid = b.breedid
GROUP BY b.breedname
ORDER BY Quantity DESC;
```

Result Grid | Filter Rows:

breedname	Quantity
Barred Plymouth Rock	4
Turkey	2
Village Chicken	2
FreeRange Chicken	2
Broiler	2
Sebright Chicken	2
Silkie Chicken	2
Rhode Island Red	2
Serama	2

Question : Display Chicken's weight by their highest weight.

```
SELECT count(b.BreedName) as breed, c.chickenid, MAX( chickenweight )
as Highest_Weight
FROM breed b , chicken c
Where b.breedid=c.breedid
group by b.BreedName , c.chickenid
order by Highest_Weight  desc;
```

Result Grid | Filter Rows:

breed	chickenid	Highest_Weight
1	ch002	3.0
1	ch010	3.0
1	ch017	2.8
1	ch012	2.6
1	ch013	2.5
1	ch001	2.3
1	ch004	2.3
1	ch016	2.3
1	ch008	2.2
1	ch003	2.1
1	ch011	2.0
1	ch006	2.0
1	ch015	1.9
1	ch007	1.8
1	ch019	1.7
1	ch014	1.6

Result 4

Question : Display Chicken's weight by their lowest weight.

```
SELECT count(b.BreedName) as breed, c.chickenid,  MIN( chickenweight )
as Lowest_Weight
FROM breed b, chicken c
Where b.breedid=c.breedid
group by b.BreedName , c.chickenid
order by Lowest_Weight  asc;
```

breed	chickenid	Lowest_Weight
1	ch009	1.2
1	ch018	1.4
1	ch005	1.5
1	ch014	1.6
1	ch020	1.6
1	ch019	1.7
1	ch007	1.8
1	ch015	1.9
1	ch011	2.0
1	ch006	2.0
1	ch003	2.1
1	ch008	2.2
1	ch001	2.3
1	ch004	2.3
1	ch016	2.3
1	ch013	2.5
1	ch012	2.6
1	ch017	2.8
1	ch002	3.0

Question : Display the breed and their average weight

```
SELECT b.BreedName as breed,  Avg( chickenweight ) as Average_Weight
FROM breed b , chicken c
Where b.breedid=c.breedid
group by b.BreedName ;
```

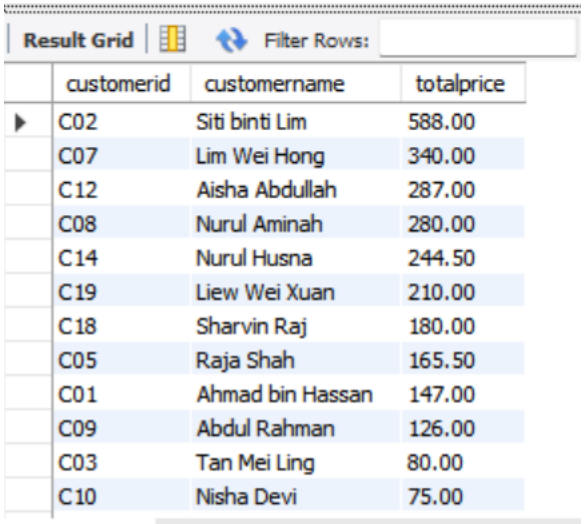
Result Grid Filter Rows:

breed	Average_Weight
Turkey	2.15000
Village Chicken	2.80000
FreeRange Chicken	2.30000
Broiler	1.95000
Sebright Chicken	1.70000
Barred Plymouth Rock	1.97500
Silkie Chicken	2.30000
Rhode Island Red	1.45000
Serama	2.30000

2.5 Join Tables (Complex Queries)

Question: Calculate total price for cutomer that purchase any product based on purchase price and quantity.

```
SELECT c.customerid, c.customername, SUM(pu.quantity * pro.price) AS
totalprice
FROM customer c, purchase pu, product pro
WHERE c.customerid IN (
    SELECT DISTINCT pu.customerid
    FROM purchase pu
)
and  c.customerid = pu.customerid
and  pu.productid = pro.productid
GROUP BY c.customerid, c.customername
ORDER BY totalprice DESC;
```



Result Grid | Filter Rows:

customerid	customername	totalprice
C02	Siti binti Lim	588.00
C07	Lim Wei Hong	340.00
C12	Aisha Abdullah	287.00
C08	Nurul Aminah	280.00
C14	Nurul Husna	244.50
C19	Liew Wei Xuan	210.00
C18	Sharvin Raj	180.00
C05	Raja Shah	165.50
C01	Ahmad bin Hassan	147.00
C09	Abdul Rahman	126.00
C03	Tan Mei Ling	80.00
C10	Nisha Devi	75.00

Question: Retrieve the names of all employees who work in farms located in Selangor and made a purchase after November 1, 2023.

```
SELECT distinct(P.datepurchase ), E.EmployeeName
FROM Employee E, Purchase P
WHERE DatePurchase > '2023-11-01'
And FarmID IN (
    SELECT FarmID
    FROM Farm
    WHERE farmstore LIKE '%Selangor%'
)
order by P.datepurchase asc;
```

datepurchase	EmployeeName
2023-11-15	Wong Mei Lin
2023-11-15	Nor Aishah
2023-11-25	Wong Mei Lin
2023-11-25	Nor Aishah
2023-11-29	Wong Mei Lin
2023-11-29	Nor Aishah
2023-11-30	Wong Mei Lin
2023-11-30	Nor Aishah
2023-12-05	Wong Mei Lin
2023-12-05	Nor Aishah
2023-12-20	Wong Mei Lin
2023-12-20	Nor Aishah
2023-12-31	Wong Mei Lin
2023-12-31	Nor Aishah

3.0 data dictionary

PK:Primary Key

FK:Foreign Key

1.Chicken

No.	Data	Description	Type	Length	PK/FK
1	chickenID	Define chicken's ID	VARCHAR	20	PK
2	chickengender	Define chicken's gender	VARCHAR	50	
3	chickenweight	Define chicken's weight	DECIMAL	2,1	
4	chickenprice	Define chicken's price	INT		
5	farmid	Define farm's ID	VARCHAR	20	
6	eggNoSeries	Define egg's no series	VARCHAR	20	

2. Breed

No.	Data	Description	Type	Length	PK/FK
1	breedid	Define breed's ID	VARCHAR	5	PK
2	breedname	Define breed's name	VARCHAR	20	
3	Minimumbreedweight	Define minimum breed's weight	DECIMAL	4,1	
4	Maximumbreedweight	Define minimum breed's weight	DECIMAL	4,1	

3. Egg

No.	Data	Description	Type	Lenght	PK/FK
1.	eggNoSeries	Define Egg's number Series	VARCHAR	20	PK
2.	eggGrade	Define Egg's Grade	VARCHAR	2	
3.	eggType	Define Egg's Type	VARCHAR	10	
4.	chickenID	Define Chicken's Id	VARCHAR	20	FK

4.Customer

No.	Data	Description	Type	Length	PK/FK
1	CustomerID	Define customer's ID	VARCHAR	20	PK
2	customerName	Define customer's name	VARCHAR	20	
3	customerAddress	Define customer's Address	VARCHAR	50	
4	customerPhoneNumber	Define Customer's Phone Number	VARCHAR	15	
5	farmId	Define Farm's ID	VARCHAR	20	FK

5.Purchase

No.	Data	Description	Type	Length	PK/FK
1	TransactionID	Define purchase's ID	VARCHAR	20	PK
2	DatePurchase	Define purchase's Date	DATE		
3	CustomerID	Define customer's ID	VARCHAR	20	FK
4	ProductID	Define product's ID	VARCHAR	20	FK
5	Quantity	Define quantity	INT		

6.Product

No.	Data	Description	Type	Length	PK/FK
1	ProductID	Define product's ID	VARCHAR	5	PK
2	ProductType	Define breed's name	VARCHAR	20	
3	FarmID	Define minimum breed's weight	DECIMAL	4,1	FK
4	Price(RM)	Define minimum breed's weight	DECIMAL	4,1	

7.Farm

No.	Data	Description	Type	Length	PK/FK
1	farmID	Define farm's ID	VARCHAR	20	PK
2	farmstore	Define store's location	VARCHAR	50	
3	coopqnty	Define coop's quantity	INT		
4	farmtemp	Define farm's temperature	DECIMAL	3,1	

8.Employee

No.	Data	Description	Type	Length	PK/FK
1	EmployeeID	Define employee's ID	VARCHAR	10	PK
2	EmployeeName	Define employee's name	VARCHAR	30	
3	EmployeeGender	Define employee's gender	VARCHAR	10	
4	EmployeeShift	Define employee's shift	VARCHAR	20	
5	FarmID	Define farm's id	VARCHAR	20	FK

9.Supplier

No.	Data	Description	Type	Length	PK/FK
1.	supplierid	Define Supplier's type	VARCHAR	5	PK
2.	suppliername	Define Supplier's Name	VARCHAR	20	
3.	suppliertype	Define Supplier's Type	VARCHAR	20	
4.	farmid	Define Farm's Id	VARCHAR	20	FK

10.Medicine

No.	Data	Description	Type	Length	PK/FK
1	MedicineID	Define medicine's ID	VARCHAR	5	PK
2	MedicineType	Define medicine's type	VARCHAR	20	
3	MedicineDose	Define medicine's dose	VARCHAR	10	
4	SupplierID	Define supplier's id	VARCHAR	5	FK

11.Food

No.	Data	Description	Type	Length	PK/FK
1	FoodNoseries	Define food number series	VARCHAR	5	PK
2.	FoodExpiredDate	Define food's expired date	DATE		
3.	FoodName	Define food's name	VARCHAR	20	
4.	FoodType	Define food's type	VARCHAR	50	
5.	SupplierID	Define supplier's ID	VARCHAR	5	FK

4.0 Normalization

- **Primary Key**

FarmID, BreedID, ChickenID, eggNoSeries, EmployeeID, CustomerID, ProductID, TransactionID, SupplierID, MedicineID, FoodNoSeries

- **Partial Dependency**

FarmID -->EmployeeID

- **Transitive Dependency**

FarmID-->ChickenID,eggNoSeries

FarmID-->ChickenID, BreedID

FarmID-->SupplierID,foodNoSeries

FarmID-->SupplierID,MedicineID

FarmID-->CustomerID,PurchaseID

FarmID-->ProductID,PurchaseID

1NF

ChickenFarm(**farmID**, farmstore, coopqnty, farmtemp, **BreedId**, Breedname, MinimumBreedweight, MaximumBreedweight, **chickenID**, chickengender, chickenprice, chickenweight, farmid, breedid, **eggNoSeries**, eggGrade, eggType, chickenID, **CustomerID**, customerName, customerAddress, customerPhoneNumber, farmID, **ProductID,**ProductType,FarmID,Price, **TransactionID**, DatePurchase, CustomerID, ProductID, Quantity, **EmployeeID**, EmployeeName, EmployeeGender, EmployeeShift, FarmID, **SupplierId,** Suppliername, SupplierType, FarmID, **MedicineID**, MedicineType, MedicineDose, SupplierID, **FoodNoSeries**, FoodExpiredDate, FoodType, SupplierID)

2NF

Farm'sEmployee (**farmID**, farmstore, coopqnty, farmtemp ,**EmployeeID,** EmployeeName, EmployeeGender, EmployeeShift, FarmID)

Chicken's thing(**chickenID**, chickengender, chickenprice, chickenweight, farmid, breedid, **eggNoSeries**, eggGrade, eggType, chickenID , **BreedId**, Breedname, MinimumBreedweight, MaximumBreedweight)

Customers (**CustomerID**, customerName, customerAddress, customerPhoneNumber, farmID) , **ProductID,**ProductType,FarmID,Price , **TransactionID**, DatePurchase, CustomerID, ProductID, Quantity)

Supplier(**SupplierId,** Suppliername, SupplierType, FarmID, **MedicineID**, MedicineType, MedicineDose, SupplierID, **FoodNoSeries**, FoodExpiredDate, FoodType, SupplierID)

3NF

Farm(**farmID**, farmstore, coopqnty, farmtemp)

Breed(**BreedId**, Breedname, MinimumBreedweight, MaximumBreedweight)

Chicken(**chickenID**, chickengender, chickenprice, chickenweight, farmid, breedid)

Egg(**eggNoSeries**, eggGrade, eggType, chickenID)

Customer(**CustomerID**, customerName, customerAddress, customerPhoneNumber, farmID)

Product(**ProductID,**ProductType,FarmID,Price)

Purchase(**TransactionID**, DatePurchase, CustomerID, ProductID, Quantity)

Employee(**EmployeeID,** EmployeeName,EmployeeGender,EmployeeShift,FarmID)

Supplier(**SupplierId,** Suppliername, SupplierType, FarmID)

Medicine(**MedicineID**, MedicineType, MedicineDose, SupplierID)

Food(**FoodNoSeries**, FoodExpiredDate, FoodType, SupplierID)

5.0 Reference

Edison, K., Fahadi, B., MN, M., Djenny, B., & IS, M. (2021). Poultry Farm Management Information System (A Case study of Biyinzika Poultry International Limited). *British Journal of Computer, Networking and Information Technology*, *4*(2), 42–79. https://doi.org/10.52589/bjcnit-i1qimwrr

Farm Management System ER Diagram | FreeProjectz. (2017, July 17). https://www.freeprojectz.com/entity-relationship/farm-management-system-er-diagram

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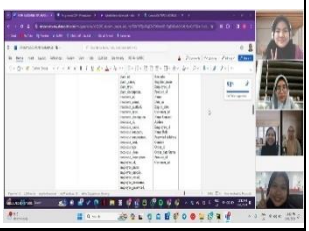
6.0 Work Distribution Task

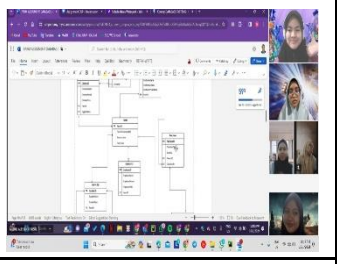
Work Distribution Task	
Background / Introduction	Siti Maisarah binti Suhardi Nurul Faqihah binti Mazli Amran
Scopes	Siti Maisarah binti Suhardi Nurul Faqihah binti Mazli Amran
Objectives	Siti Maisarah binti Suhardi Nurul Faqihah binti Mazli Amran
Case Study Comparison	Nur Atieka Rafiekah binti Razak Nurul Faqihah binti Mazli Amran
Attributes and Primary Key	Nurul Alis binti Yusri Nur Atieka Rafiekah binti Razak
Business Rules and Relationship	Nurul Alis binti Yusri Hawa Humaira binti Hamuzan
Entity Relationship Diagram	Siti Maisarah binti Suhardi Nurul Faqihah binti Mazli Amran
Extended Entity Relationship Diagram	Hawa Humaira binti Hamuzan Nurul Alis binti Yusri
SQL Command	Nurul Faqihah binti Mazli Amran Nur Atieka Rafiekah binti Razak Siti Maisarah binti Suhardi Nurul Alis binti Yusri Hawa Humaira binti Hamuzan
SQL for Query	Nurul Faqihah binti Mazli Amran Nur Atieka Rafiekah binti Razak Siti Maisarah binti Suhardi Nurul Alis binti Yusri Hawa Humaira binti Hamuzan
Normalization	Siti Maisarah binti Suhardi Nurul Alis binti Yusri

Group Meeting Report [1]			
Date: 23/10/2023	**Venue:** Class 	**Attendees:** **1.** Nurul Faqihah **2.** Nur Atieka Rafiekah **3.** Siti Maisarah **4.** Hawa Humaira **5.** Nurul Alis	
Time: 10.30am	**SCL Leader:** Nurul Faqihah		

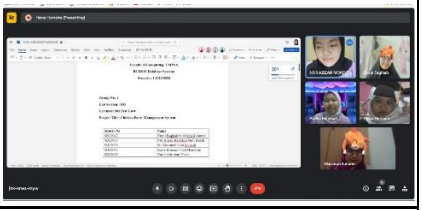
No	**Task List**	**Progress Task/ Table Involves/ Remarks**	**Person in Charge (PIC)**
1.	Discuss about project tittle to choose.	Have decided the project tittle.	Faqihah
2.	Make some research about tittle that we choose and get some information.	Get a lot of information from different website.	Atieka
3.	Distribute work for each team members.	All members have some parts to do.	Alis
4.	Do draft for part 1.	Investigate the manual process that occurred for your title	Hawa
5.	Completing content of report.	Which is project background, objectives and scopes.	Maisarah

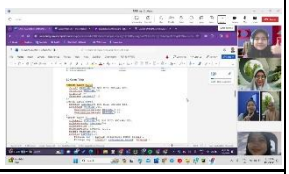
Group Meeting Report [2]		
Date: **9/11/2023**	**Venue:** Microsoft Teams 	**Attendees:** **1.** Nurul Faqihah **2.** Nur Atieka Rafiekah **3.** Siti Maisarah **4.** Hawa Humaira **5.** Nurul Alis
Time: **9.40-10.30**	**SCL Leader:** Nur Atieka Rafiekah	

No	**Task List**	**Progress Task/** **Table Involves/** **Remarks**	**Person in** **Charge (PIC)**
1.	Do the comparison between two databases	Identify the entities, attributes and primary keys for Database System 1	Faqihah
2.	Do the comparison between two databases	Identify the entities, attributes and primary keys for Database System 2	Atieka
3.	Discuss about the entities in out project	Do the draft of entities, attributes and primary keys for our project.	Alis
4.	Discuss the Business rule of Proposed System	Do the draft of business rule for each relationship	Hawa
5.	Discuss the ERD of proposed System	Do the draft for ERD of proposed System	Maisarah

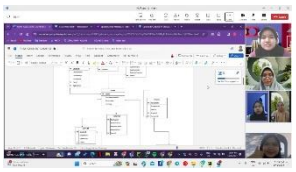
Group Meeting Report [3]			
Date: **25/11/2023**	**Venue:**Microsoft Teams 	**Attendees:** **1.** Nurul Faqihah **2.** Nur Atieka Rafiekah **3.** Siti Maisarah **4.** Hawa Humaira **5.** Nurul Alis	
Time: **9-11.30pm**	**SCL Leader:** Nurul Alis		

No	**Task List**	**Progress Task/** **Table Involves/** **Remarks**	**Person in** **Charge (PIC)**
1.	Completing the Business rule of Proposed System	Finalized the business rule of proposed System	Alis
2.	Completing the ERD of the proposed system	Completing the ERD of the proposed system	Faqihah
3.	Discuss the EERD of the proposed system	Do the draft for EERD of the proposed system	Hawa
4.	Distribute the table and data	Finalized of tables, attributes and primary keys for our project	Atieka
5.	Discuss the table and data	Distribute the minimum 2 table and insert 10 data records for each table.	Maisarah

Group Meeting Report [4]			
Date: 25/12/2023	**Venue:** Google Meet 	**Attendees:** **1.** Nurul Faqihah **2.** Nur Atieka Rafiekah **3.** Siti Maisarah **4.** Hawa Humaira **5.** Nurul Alis	
Time: **9-11pm**	**SCL Leader:** Nur Atieka Rafiekah		
No	**Task List**	**Progress Task/ Table Involves/ Remarks**	**Person in Charge (PIC)**
1.	Completing the EERD of the proposed system	Finalized the EERD of the proposed system	Alis
2.	Completing the table and data records	Finalized the table and data record so that it is corresponding and	Atieka
3.	Make a SQL (DML) for Create and Insert	Distribute to write the SQL for each create and insert tables	Maisarah
4.	Distribute SQL statement	Distribute which table suitable to UPDATE, DELETE, WHERE/HAVING/GROUP BY/AND/OR/ BETWEEN / LIKE/ORDER BY	Hawa
5.	Distribute SQL statement	Distribute which table suitable to AGGREGATE FUNCTION: MIN, MAX, AVG, COUNT, SUM, complex queries	Faqihah

Group Meeting Report [5]		
Date:	**Venue:** Microsoft Teams 	**Attendees:** **1.** Nurul Faqihah **2.** Nur Atieka Rafiekah **3.** Siti Maisarah **4.** Hawa Humaira **5.** Nurul Alis
Time: 9-11pm	**SCL Leader:** Maisarah	

No	**Task List**	**Progress Task/ Table Involves/ Remarks**	**Person in Charge (PIC)**
1.	Finalize SQL: SELECT *	Finalize the function of select and the corresponding tables	Maisarah
2.	Finalize SQL Statement	Recheck the question, code and output for each SQL Staement .	Atieka
3.	Distribute the Data Dictionary	Discuss and Distribute data dictionary for each entity	Alis
4.	Identify all functional dependencies.	Identify all partial, dependency, full dependency and transitive dependency	Hawa
5.	Discuss about normalization	Perform the normalization step by step from First Normal Form (1NF) until Third Normal Form (3NF).	Alis

Group Meeting Report [6]			
Date:	**Venue:** Microsoft Teams 	**Attendees:** **1.** Nurul Faqihah **2.** Nur Atieka Rafiekah **3.** Siti Maisarah **4.** Hawa Humaira **5.** Nurul Alis	
Time: **3-5.30pm**	**SCL Leader:** Hawa Humaira		
No	**Task List**	**Progress Task/** **Table Involves/** **Remarks**	**Person in** **Charge (PIC)**
1.	Finalize the Data Dictionary	DD has equivalence to entities in EERD PK and FK have identical type and length.	Maisarah
2.	Finalize all functional dependencies.	Recheck the all partial, dependency, full dependency and transitive dependency	Alis
3.	Finalize the Normalization	Normalization 1NF, 2NF, 3NF, with primary key(s) in 1NF, remove partial dependency in 2NF, remove transitive dependency in 3NF.	Hawa
4.	References	Correct list of reference	Faqihah
5.	Format	The layout, font type and size has been formatted	Atieka