University of Hafr Al Batin

Computer Science and Engineering Department

CSE 324 – Database Systems   Term 221
Problem Statement/Specifications

- **Team [D]**

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- **Problem Statement/Specifications**

The problem statements: -

Coffee shop like any other place they need their own database for several reasons. As the world getting bigger and bigger, people need more coffee so , Coffee are getting high pressure and every coffee wants to success not to fail.

A Coffee shop needs to handle a lot of information's like, how many people did order today, how much did they order, how much did they pay, how fast did the coffee getting served, how many times customer didn't like this kind of coffee, how much employees' salaries cost, a lot of information need to be calculated and stored in organized way. Human can do it but not as specific and efficient as database system. If the people today did not have databases imagine what will happen, many things as employees cannot handle the calculations of numerous numbers of orders and people came to the coffee shop and if he did a small mistake of counting this mistake will cost a lot.

The aim of this project is to make a coffee shop database to see how it will be handled. What will be achieved after database is made. How fast and accurate our calculations will be.

The Specifications: -

We will have 8 Entities, 6 relationships and 39 attributes.
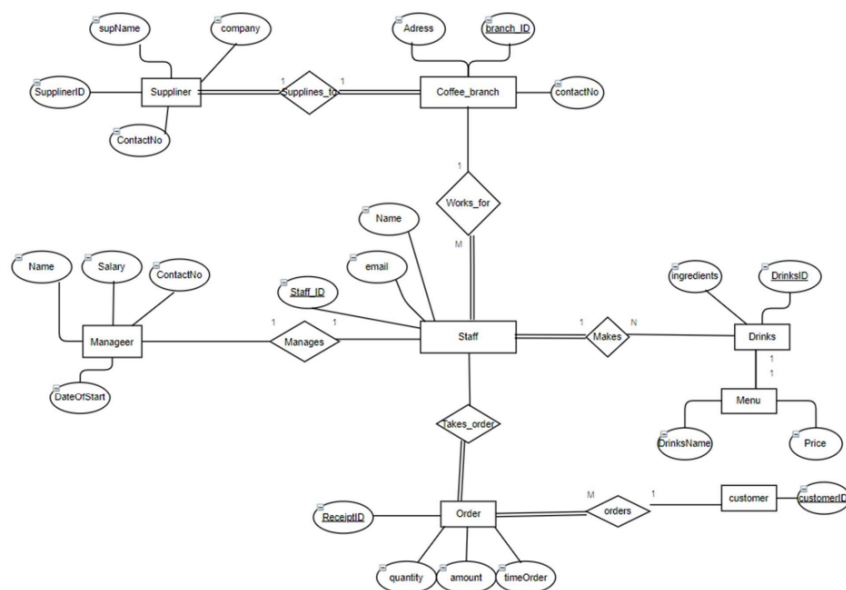
Now we will describe all the entities and their attributes.

1- Coffee shop may have many branches so; every branch will have his own contact number and address.
2- Supplier will have an ID that identify him, a coffee shop branch supplies to, contact number, his name and the company is getting his supplies from.
3- Manager he may be a normal employee so, he needs his managing start date.
4- Staff will have their id and all information.
5- Drinks will have the ID of the barista made it so, he gets his bounces later.

- **Entity type**

Entity Type	Attributes	(Candidate) Key(s)
Coffee _branch	branchID, contactNo, address	Primary key
Supplier	supplierID, Coffee_branchID,contactNo, address,supName,company	Primary key, foreign key
Manager	StaffID, Coffee_branchID, DateofStart, Name, Salary, PhoneNo, email	Primary key, foreign key
Staff	staffID, Coffee_branchID, DateofStart, Name, Salary, ContactNo, email	Foreign key, foreign key
Drink&Meal	DrinkID, Coffee_branchID, baristaID, CookerID, ingredients	Primary key, foreign key, foreign key
Order	ReceiptID, CustomerID, staffID, Coffee_branchID, quantities, amount, timeOrder, date	Primary key, foreign key, foreign key, foreign key
Customer	CustomerID	Primary key
Menu	DrinkID, baristasName, Coffee_branchID, DrinkName,price	

- **Relationship**

Relationship Type	Participating Entities		Cardinality Ratio (1:1, 1:N, M:N) From Entity 1 TO Entity 2	Participation constraint (total, partial)	
	Entity 1	Entity 2		Entity 1 side	Entity 2 side
Supplies_to	Supplier	Coffee_branch	M:1	Total	Total
Manages	Manager	staff	1:1	Total	Total
Works_for	staff	Coffee_branch	M:1	Total	Total
Makes	staff	Drinks	1:N	Total	Partial
Takes_order	staff	Order	N:M	Total	Partial
Supervise	Barista	Cookers	1:N	Partial	Total

Coffee _branch

Branch_ID	Contact_No	address

Supplier

supplierID	contactNo	supName,	company

Manager

DateofStart	Name	salary	contactNo

Staff

staffID	Name	email

Order

ReceiptID	quantities	amount	timeOrder

Customer

CustomerID

Drinks

DrinkID	ingredients	DrinkName	price

Mapping 1:1 realtion type :

Supplier

supplierID	contactNo	supName,	company	Branch_id

mapping M:1 realtion type :

staff

Staff_id	**name**	**email**	**Branch_id**

mapping N:M realtion type :

order

ReceiptID	quantities	amount	timeOrder	Staff_id

Implementation Mysql :-

CREATE TABLE `coffee_branch` (

 `branch_ID` int NOT NULL,

 `contactNo` int NOT NULL,

 `adress` varchar(50) NOT NULL,

 PRIMARY KEY (`branch_ID`));

```
LRROR 1140 (42302): Table coffeevi.coffee_branch doesn't exist
mysql> describe coffee_branch;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| branch_ID | int         | NO   | PRI | NULL    |       |
| contactNo | int         | NO   |     | NULL    |       |
| adress    | varchar(50) | NO   |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

CREATE TABLE `customer` (

 `CustomerID` int NOT NULL,

 PRIMARY KEY (`CustomerID`));

```
mysql> describe customer;
+------------+------+------+-----+---------+-------+
| Field      | Type | Null | Key | Default | Extra |
+------------+------+------+-----+---------+-------+
| CustomerID | int  | NO   | PRI | NULL    |       |
+------------+------+------+-----+---------+-------+
1 row in set (0.01 sec)
```

CREATE TABLE `drinks` (

 `DrinkID` int NOT NULL,

 `ingredients` varchar(35) NOT NULL,

 `DrinkName` varchar(35) NOT NULL,

 `Price` int NOT NULL,

 PRIMARY KEY (`DrinkID`));

```
mysql> describe drinks;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| DrinkID     | int         | NO   | PRI | NULL    |       |
| ingredients | varchar(35) | NO   |     | NULL    |       |
| DrinkName   | varchar(35) | NO   |     | NULL    |       |
| Price       | int         | NO   |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

CREATE TABLE `managment` (

 `DateOfStart` date NOT NULL,

 `Name` varchar(30) NOT NULL,

 `Salary` int NOT NULL,

 `ContactNO` int NOT NULL);

```
mysql> describe managment;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| DateOfStart | date        | NO   |     | NULL    |       |
| Name        | varchar(30) | NO   |     | NULL    |       |
| Salary      | int         | NO   |     | NULL    |       |
| ContactNO   | int         | NO   |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

```
CREATE TABLE `orderss` (

 `ReceiptID` int NOT NULL,

 `quantity` int NOT NULL,

 `amount` int NOT NULL,

 `timeOrder` int DEFAULT NULL,

 `Staff_id` int NOT NULL,

 PRIMARY KEY (`ReceiptID`));
```

```
mysql> describe orderss;
+-----------+------+------+-----+---------+-------+
| Field     | Type | Null | Key | Default | Extra |
+-----------+------+------+-----+---------+-------+
| ReceiptID | int  | NO   | PRI | NULL    |       |
| quantity  | int  | NO   |     | NULL    |       |
| amount    | int  | NO   |     | NULL    |       |
| timeOrder | int  | YES  |     | NULL    |       |
| Staff_id  | int  | NO   |     | NULL    |       |
+-----------+------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

CREATE TABLE `stafff` (

  `StaffID` int NOT NULL,

  `Name` varchar(30) NOT NULL,

  `email` varchar(50) DEFAULT NULL,

  `branch_ID` int NOT NULL,

  PRIMARY KEY (`StaffID`));

```
mysql> describe stafff;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| StaffID   | int         | NO   | PRI | NULL    |       |
| Name      | varchar(30) | NO   |     | NULL    |       |
| email     | varchar(50) | YES  |     | NULL    |       |
| branch_ID | int         | NO   |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

CREATE TABLE `suppllierr` (

  `supplierID` int NOT NULL,

  `contactNO` int NOT NULL,

  `supname` varchar(25) DEFAULT NULL,

  `company` varchar(25) DEFAULT NULL);

```
mysql> describe suppllierr;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| supplierID | int         | NO   |     | NULL    |       |
| contactNO  | int         | NO   |     | NULL    |       |
| supname    | varchar(25) | YES  |     | NULL    |       |
| company    | varchar(25) | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

INSERT INTO coffee_branch VALUES (01,013888,'Hafar');

INSERT INTO coffee_branch VALUES (02,012555,'Jeddah');

```
mysql> select * from coffee_branch;
+-----------+-----------+--------+
| branch_ID | contactNo | adress |
+-----------+-----------+--------+
|         1 |     13888 | Hafar  |
|         2 |     12555 | Jeddah |
+-----------+-----------+--------+
2 rows in set (0.00 sec)
```

INSERT INTO managment VALUES (1/11/2022,'NAIF',8500,05954380);

INSERT INTO managment VALUES (1/11/2022,'SALEH',6000,05165888);

INSERT INTO managment VALUES (1/11/2022,'BADER',7000,05889234);

```
mysql> select * from managment;
+-------------+-------+--------+-----------+
| DateOfStart | Name  | Salary | ContactNO |
+-------------+-------+--------+-----------+
| 0000-00-00  | SALEH |   6000 |   5165888 |
| 0000-00-00  | BADER |   7000 |   5889234 |
| 0000-00-00  | NAIF  |   8500 |   5954380 |
+-------------+-------+--------+-----------+
3 rows in set (0.00 sec)
```

INSERT INTO drinks VALUES (1, 'coffee with milk','Coffee milk', 14);

INSERT INTO drinks VALUES (2, 'black coffee','Black Coffee', 8);

INSERT INTO drinks VALUES (3, 'saudi coffee with dates on the side','Saudi Coffee', 25);

INSERT INTO drinks VALUES (4, 'ice coffee','ICE COFFEE', 16);

INSERT INTO drinks VALUES (5, 'tea','Black Tea', 4);

INSERT INTO drinks VALUES (6, 'orange juice','Fresh juice', 18);

```
mysql> select * from drinks;
+---------+-------------------------------------+--------------+-------+
| DrinkID | ingredients                         | DrinkName    | Price |
+---------+-------------------------------------+--------------+-------+
|       1 | coffee with milk                    | Coffee milk  |    14 |
|       2 | black coffee                        | Black Coffee |     8 |
|       3 | saudi coffee with dates on the side | Saudi Coffee |    25 |
|       4 | ice coffee                          | ICE COFFEE   |    16 |
|       5 | tea                                 | Black Tea    |     4 |
|       6 | orange juice                        | Fresh juice  |    18 |
+---------+-------------------------------------+--------------+-------+
6 rows in set (0.00 sec)
```

INSERT INTO STAFFF VALUES (1101,'Samey','samey@gmail',1);

INSERT INTO STAFFF VALUES (1102,'Bandar','Bander@gmail',1);

INSERT INTO STAFFF VALUES (1103,'ziad','ziad@gmail',1);

INSERT INTO STAFFF VALUES (1104,'Mohammed','mohammed@gmail',1);

INSERT INTO STAFFF VALUES (1105,'Mousa','mousa@gmail',1);

INSERT INTO STAFFF VALUES (1106,'yasser','yasser@gmail',1);

INSERT INTO STAFFF VALUES (1107,'Nadr','nadr@gmail',1);

```
mysql> select * from stafff;
+---------+----------+----------------+-----------+
| StaffID | Name     | email          | branch_ID |
+---------+----------+----------------+-----------+
|    1101 | Samey    | samey@gmail    |         1 |
|    1102 | Bandar   | Bander@gmail   |         1 |
|    1103 | ziad     | ziad@gmail     |         1 |
|    1104 | Mohammed | mohammed@gmail |         1 |
|    1105 | Mousa    | mousa@gmail    |         1 |
|    1106 | yasser   | yasser@gmail   |         1 |
|    1107 | Nadr     | nadr@gmail     |         1 |
+---------+----------+----------------+-----------+
7 rows in set (0.00 sec)
```

INSERT INTO suppllierr VALUES (1001, 05511111,'Ahmad','Almaraie');

INSERT INTO suppllierr VALUES (1002, 055123333,'Osamh','Alyom');

INSERT INTO suppllierr VALUES (1003, 05511111,'Majid','Almaraie');

INSERT INTO suppllierr VALUES (1004, 05511234,'fahad','Alwatanyah');

```
ERROR 1146 (42S02): Table 'coffeev1.sopllierr' doesn't
mysql> select * from suppllierr ;
+------------+-----------+---------+------------+
| supplierID | contactNO | supname | company    |
+------------+-----------+---------+------------+
|       1002 |  55123333 | Osamh   | Alyom      |
|       1003 |   5511111 | Majid   | Almaraie   |
|       1004 |   5511234 | fahad   | Alwatanyah |
|       1001 |   5511111 | Ahmad   | Almaraie   |
+------------+-----------+---------+------------+
4 rows in set (0.00 sec)
```

INSERT INTO customer VALUES (01);

INSERT INTO customer VALUES (02);

INSERT INTO customer VALUES (03);

INSERT INTO customer VALUES (04);

INSERT INTO customer VALUES (05);

INSERT INTO customer VALUES (06);

INSERT INTO customer VALUES (07);

INSERT INTO customer VALUES (08);

INSERT INTO customer VALUES (09);

```
mysql> select * from customer;
+------------+
| CustomerID |
+------------+
|          1 |
|          2 |
|          3 |
|          4 |
|          5 |
|          6 |
|          7 |
|          8 |
|          9 |
+------------+
9 rows in set (0.00 sec)
```

INSERT INTO Orderss VALUES (001,5,5,11.50,1101);

INSERT INTO Orderss VALUES (002,8,1,11.54,1102);

INSERT INTO Orderss VALUES (003,2,2,11.54,1103);

INSERT INTO Orderss VALUES (004,1,3,11.56,1104);

INSERT INTO Orderss VALUES (005,3,7,11.57,1102);

INSERT INTO Orderss VALUES (006,2,1,11.57,1101);

INSERT INTO Orderss VALUES (007,9,1,11.58,1104);

INSERT INTO Orderss VALUES (008,4,1,11.59,1103);

```
mysql> select * from orderss;
+-----------+----------+--------+-----------+----------+
| ReceiptID | quantity | amount | timeOrder | Staff_id |
+-----------+----------+--------+-----------+----------+
|         1 |        5 |      5 |        12 |     1101 |
|         2 |        8 |      1 |        12 |     1102 |
|         3 |        2 |      2 |        12 |     1103 |
|         4 |        1 |      3 |        12 |     1104 |
|         5 |        3 |      7 |        12 |     1102 |
|         6 |        2 |      1 |        12 |     1101 |
|         7 |        9 |      1 |        12 |     1104 |
|         8 |        4 |      1 |        12 |     1103 |
+-----------+----------+--------+-----------+----------+
8 rows in set (0.00 sec)
```