Project: Coffee Shop Management System

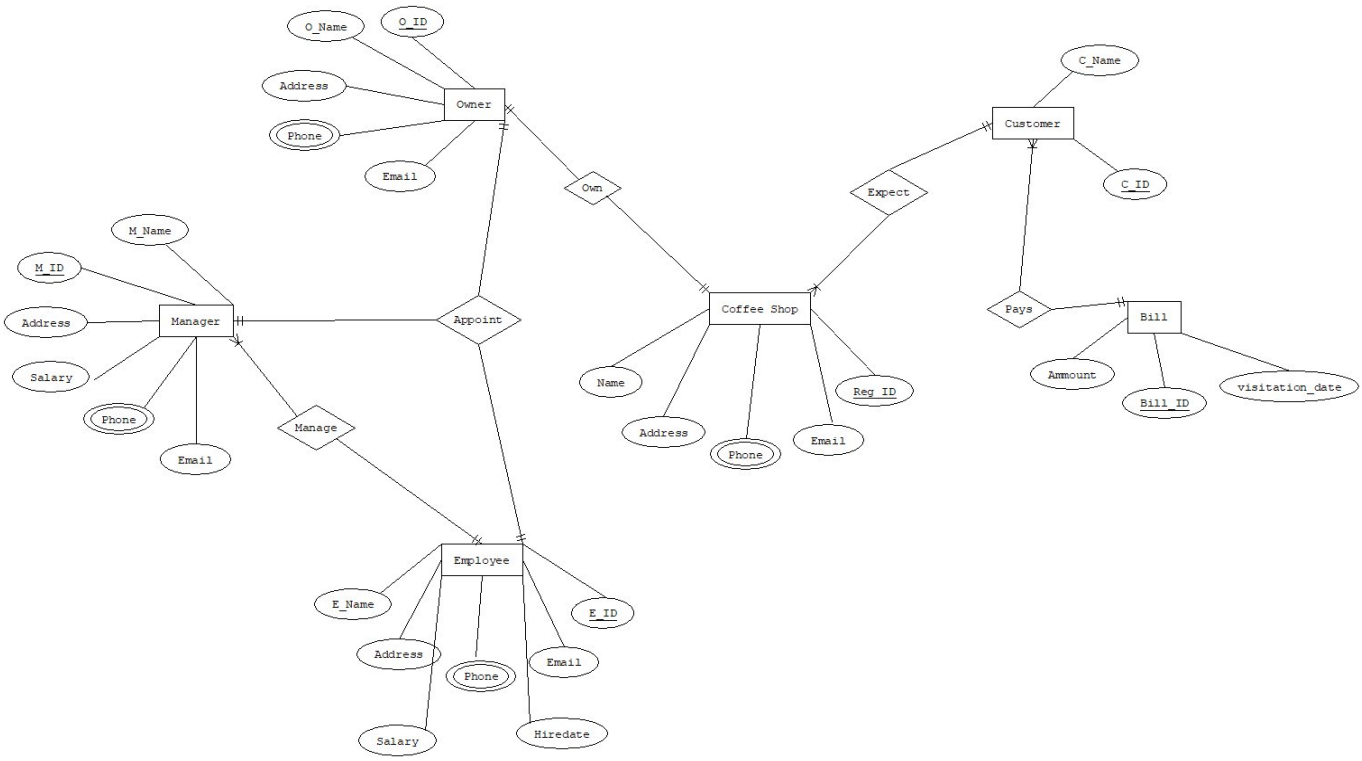
Name
Akib Muhammad

Introduction

A coffee shop is the best place to pass one's free time. There are a lot of people who love coffee more than any other drinks. Usually, in a coffee shop the interior is well designed and it's calm and quiet. People go there not only to drink coffee but also to read books, to meet new people and to finish their job related works. Every coffee shop has a management system. Before starting the shop they plan the whole thing and then gives that plan a real form. So, our project is about that management system.

Behind every coffee shop which is big or small there's an **owner** who **owns** the the coffee shop. That owner gathers up the courage to invest big time or small time and depending on that investment the coffee shop becomes big or small. The owner needs his background clean and so to verify that the authority runs a check on his id so there's id attribute(**owner_ID**) and for the coffee shop it needs to have a id of being registered and so there's **reg_Id** attribute. In terms of coffee shop, it has to be made in a well known area where it can get a lot of customers. In order to visit there the customers need the address so there's **address** attribute. If the customers are from out of the city then they have to ask people to know about its location and for that reason there's the **name** attribute. Then to know about the status of the coffee shop whether it is opened or closed customer needs source to contact and based on that fact there're two attributes namely **phone** and **email**. After that he **appoints manager and employees** since he can't be at the coffee shop all the time the manager takes care of everything on behalf of the owner. For hiring the manager and employees the owner needs to make sure that they don't have any criminal records and so he runs and check on both manger's and employees **id** before hiring. Then after he finds out that they are clean, they provide the owner their **names**, **addresses**, **phone(multivalued attribute)** and **email**. When the owner realizes that the employees are qualified for the job he then offers them **salary** and notes down their **hiredate**. To know about the status of the coffee shop the owner needs to contact the manager and so they both have a **multivalued attribute** which is **phone**. If that's unreachable then **address** attribute is also there. If the owner's gone abroad and the manager needs to report a serious issue then he can use the **email** attribute .Then the

manager manages those **employees** to provide the best service towards the customers which the **customers expect**. After that the employees start the day according to the plan. The customers arrives at the coffee shop the employees note down their desired drink or dessert. After they are done the bills are made according to the customer's name(**C_Name**) and id(**C_ID**). The **bill** entity contains **amount**, **bill_id** and **visitation_date** attributes.



Normalization

Own - (Name, Reg_ID,Address,Email,Phone,O_ID,O_Name,Address,Email,Phone)

1NF- Phone is a multivalued attribute

2NF- Name,Reg_ID,Address,Email,Phone

O_ID,O_Name,Address,Email,Phone

3NF- Name,Reg_ID,Address,Email,Phone

O_ID,O_Name,Address,Email,Phone

Table for Own

1. Name,Reg_ID,Address,Email,O_ID (O_ID is the foreign key)
2. O_ID,O_Name,Address,Email
3. Reg_ID,phone -composite pk
4. O_ID,phone -composite pk

Expect- (C_name,C_ID,Name,Reg_ID,Address,Email,Phone)

1NF- Phone is a multivalued attribute

2NF- C_name,C_ID

Name,Reg_ID,Address,Email,Phone

3NF- C_name,C_ID

Name,Reg_ID,Address,Email,Phone

Table for Expect

1. C_name,C_ID,Reg_ID (Reg_ID is the foreign key)
2. Name,Reg_ID,Address,Email,Phone
3. Reg_ID,phone -composite pk

Pays- (C_name,C_ID,Bill_ID,Ammount,visitation_date)

1NF- There is no multrivalued attribute

2NF- C_name,C_ID

Bil_ID,Ammount,visitation_date

3NF- C_name,C_ID

Bil_ID,Ammount,visitation_date

Table for Pays-

1. C_name,C_ID,Bill_ID (Bill_ID is the foreign key)

2. Bil_ID,Ammount,visitation_date

Manage -
(E_Name,E_ID,Address,Email,Salary,Hiredate,Phone,M_Name,M_ID,Address,Email,Salary,Phone)

1NF- Phone is a multivalued attribute

2NF- E_Name,E_ID,Address,Email,Salary,Hiredate,Phone

M_Name,M_ID,Address,Email,Salary,Phone

3NF- E_Name,E_ID,Address,Email,Salary,Hiredate,Phone

M_Name,M_ID,Address,Email,Salary,Phone

Table for Manage

1. E_Name,E_ID,Address,Email,Salary,Hiredate,M_ID (M_ID is the foreign key)

2. M_Name,M_ID,Address,Email,Salary

3. E_ID,Phone -composite pk

4. M_ID,Phone -composite pk

Appoint -
(E_Name,E_ID,Address,Email,Salary,Hiredate,Phone,M_Name,M_ID,Address,Email,Salary,Phone,O_ID,O_Name,Address,Email,Phone)

1NF- Phone is a multivalued attribute

2NF- E_Name,E_ID,Address,Email,Salary,Hiredate,Phone

M_Name,M_ID,Address,Email,Salary,Phone

O_ID,O_Name,Address,Email,Phone

3NF- E_Name,E_ID,Address,Email,Salary,Hiredate,Phone

M_Name,M_ID,Address,Email,Salary,Phone

O_ID,O_Name,Address,Email,Phone

Table for Appoint

1. E_Name,E_ID,Address,Email,Salary,Hiredate,M_ID,O_ID (M_ID,O_ID is the foreign key)

2. M_Name,M_ID,Address,Email,Salary

3. O_ID,O_Name,Address,Email

4. E_ID,Phone -composite pk

5. M_ID,Phone -composite pk

6. O_ID,phone -composite pk

Final Table

1. Name,Reg_ID,Address,Email,O_ID - CShop

2. C_name,C_ID,Reg_ID -CustomerC

3. C_name,C_ID,Bill_ID -CustomerB

4. E_Name,E_ID,Address,Email,Salary,Hiredate,M_ID,O_ID - Employee

5. Bil_ID,Ammount,visitation_date - Bill

6. O_ID,O_Name,Address,Email - Owner

7. M_Name,M_ID,Address,Email,Salary -Manager

8. Reg_ID,phone - R_fn

9. O_ID,phone - O_fn

10. E_ID,Phone - E_fn

11. M_ID,Phone - M_fn

Create Table

```
create table CShop(
name varchar2(20),
reg_id number(10),
address varchar2(30),
email varchar2 (20),
O_ID number(10))
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CSHOP	NAME	Varchar2	20	-	-	-	✓	-	-
	REG_ID	Number	-	10	0	-	✓	-	-
	ADDRESS	Varchar2	30	-	-	-	✓	-	-
	EMAIL	Varchar2	20	-	-	-	✓	-	-
	O_ID	Number	-	10	0	-	✓	-	-

1 - 5

alter table CShop add constraint cx1 primary key (reg_id)

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CSHOP	NAME	Varchar2	20	-	-	-	-	-	-
	REG_ID	Number	-	10	0	1	-	-	-
	ADDRESS	Varchar2	30	-	-	-	✓	'BANGLADESH'	-
	EMAIL	Varchar2	20	-	-	-	✓	-	-
	O_ID	Number	-	10	0	-	✓	-	-

1 - 5

alter table CShop modify(name not null)

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CSHOP	NAME	Varchar2	20	-	-	-	-	-	-
	REG_ID	Number	-	10	0	-	✓	-	-
	ADDRESS	Varchar2	30	-	-	-	✓	-	-
	EMAIL	Varchar2	20	-	-	-	✓	-	-
	O_ID	Number	-	10	0	-	✓	-	-

1 - 5

alter table CShop add constraint cx2 unique (email)

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CSHOP	NAME	Varchar2	20	-	-	-	-	-	-
	REG_ID	Number	-	10	0	-	✓	-	-
	ADDRESS	Varchar2	30	-	-	-	✓	-	-
	EMAIL	Varchar2	20	-	-	-	✓	-	-
	O_ID	Number	-	10	0	-	✓	-	-

1 - 5

alter table CShop modify address default 'BANGLADESH'

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CSHOP	NAME	Varchar2	20	-	-	-	-	-	-
	REG_ID	Number	-	10	0	-	✓	-	-
	ADDRESS	Varchar2	30	-	-	-	✓	'BANGLADESH'	-
	EMAIL	Varchar2	20	-	-	-	✓	-	-
	O_ID	Number	-	10	0	-	✓	-	-

1 - 5

create table Owner(

O_ID number(10),

O_Name varchar2(20),

address varchar2(30),

email varchar2 (20))

alter table Owner add constraint cx3 primary key(O_ID)

alter table CShop add constraint cx4 foreign key(O_ID) references Owner(O_ID)

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
OWNER	O_ID	Number	-	10	0	1	-	-	-
	O_NAME	Varchar2	20	-	-	-	✓	-	-
	ADDRESS	Varchar2	30	-	-	-	✓	-	-
	EMAIL	Varchar2	20	-	-	-	✓	-	-

1 - 4

create table O_fn(

O_ID number(15),

phone number(20))

alter table O_fn add constraint cx5 primary key(O_ID,phone)

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
O_FN	O_ID	Number	-	15	0	1	-	-	-
	PHONE	Number	-	20	0	2	-	-	-

1 - 2

create table reg_fn(

reg_id number(15),

phone number(20))

alter table reg_fn add constraint cx17 primary key(reg_id,phone)

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
REG_FN	REG_ID	Number	-	15	0	1	-	-	-
	PHONE	Number	-	20	0	2	-	-	-

1 - 2

create table CustomerC(

C_ID number(10),

C_Name varchar2(20),

reg_id number(10))

alter table CustomerC add constraint cx6 primary key(C_ID)

alter table CustomerC add constraint cx7 foreign key(reg_id) references CShop(reg_id)

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERC	C_ID	Number	-	10	0	1	-	-	-
	C_NAME	Varchar2	20	-	-	-	✓	-	-
	REG_ID	Number	-	10	0	-	✓	-	-
									1 - 3

create table CustomerB(

C_ID number(10),

C_Name varchar2(20),

bill_id number(10))

alter table CustomerB add constraint cx8 primary key(C_ID)

Object Type **TABLE** Object **CUSTOMERB**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERB	C_ID	Number	-	10	0	1	-	-	-
	C_NAME	Varchar2	20	-	-	-	✓	-	-
	BILL_ID	Number	-	10	0	-	✓	-	-
									1 - 3

create table Bill(

bill_id number(10),

ammount varchar2(20),

visitation_date date)

alter table Bill add constraint cx9 primary key(bill_id)

alter table CustomerB add constraint cx10 foreign key(bill_id) references Bill(bill_id)

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
BILL	BILL_ID	Number	-	10	0	1	-	-	-
	AMMOUNT	Varchar2	20	-	-	-	✓	-	-
	VISITATION_DATE	Date	7	-	-	-	✓	-	-
									1 - 3

create table Employee(

E_ID number(10),

E_Name varchar2(20),

address varchar2(30),

email varchar2 (20),

sal number (7,2),

hiredate date,

M_ID number(10),

O_ID number (10))

alter table Employee add constraint cx11 primary key(E_ID)

alter table Employee add constraint cx12 foreign key(O_ID) references Owner(O_ID)

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	E_ID	Number	-	10	0	1	-	-	-
	E_NAME	Varchar2	20	-	-	-	✓	-	-
	ADDRESS	Varchar2	30	-	-	-	✓	-	-
	EMAIL	Varchar2	20	-	-	-	✓	-	-
	SAL	Number	-	7	2	-	✓	-	-
	HIREDATE	Date	7	-	-	-	✓	-	-
	M_ID	Number	-	10	0	-	✓	-	-
	O_ID	Number	-	10	0	-	✓	-	-
									1 - 8

create table Manager(

M_ID number(10),

M_Name varchar2(20),

address varchar2(30),

email varchar2 (20),

sal number (7,2))

alter table Manager add constraint cx13 primary key(M_ID)

alter table Employee add constraint cx14 foreign key(M_ID) references Manager(M_ID)

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
MANAGER	M_ID	Number	-	10	0	1	-	-	-
	M_NAME	Varchar2	20	-	-	-	✓	-	-
	ADDRESS	Varchar2	30	-	-	-	✓	-	-
	EMAIL	Varchar2	20	-	-	-	✓	-	-
	SAL	Number	-	7	2	-	✓	-	-
									1 - 5

create table E_fn(

E_ID number(15),

phone number(20))

alter table E_fn add constraint cx15 primary key(E_ID,phone)

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
E_FN	E_ID	Number	-	15	0	1	-	-	-
	PHONE	Number	-	20	0	2	-	-	-
									1 - 2

create table M_fn(

M_ID number(15),

phone number(20))

alter table M_fn add constraint cx16 primary key(M_ID,phone)

Object Type **TABLE** Object **M_FN**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
M_FN	M_ID	Number	-	15	0	1	-	-	-
	PHONE	Number	-	20	0	2	-	-	-

1 - 2

Data Input

insert into CShop values('ChitChat House',101,'Bashundhara','chitchat@gmail.com',201)

select *

from cshop

NAME	REG_ID	ADDRESS	EMAIL	O_ID
ChitChat House	101	Bashundhara	chitchat@gmail.com	201

insert into Owner values(201,'Nasif Hasan Khan','Bashundhara','noyel.nhk@gmail.com')

select *

from owner

O_ID	O_NAME	ADDRESS	EMAIL
201	Nasif Hasan Khan	Bashundhara	noyel.nhk@gmail.com

insert into O_fn values(201,01705655655)

select *

from o_fn

O_ID	PHONE
201	1705655655

insert into reg_fn values(101,01705655655)

select *

from reg_fn

REG_ID	PHONE
101	1705655655

```
create sequence custo_c
start with 301
increment by 1
maxvalue 306
nocycle
nocache
```

Results Explain Describe Saved SQL

```
Sequence created.
```

insert into customerc (c_id,c_name,reg_id) values (custo_c.nextval,'Rafi',101)

insert into customerc (c_id,c_name,reg_id) values (custo_c.nextval,'Tafi',101)

insert into customerc (c_id,c_name,reg_id) values (custo_c.nextval,'Akib',101)

insert into customerc (c_id,c_name,reg_id) values (custo_c.nextval,'Nasif',101)

insert into customerc (c_id,c_name,reg_id) values (custo_c.nextval,'Noyel',101)

select *

from customerc

C_ID	C_NAME	REG_ID
301	Rafi	101
302	Tafi	101
303	Akib	101
304	Nasif	101
305	Noyel	101

insert into bill values (401,400,to_date('17-12-2020','dd-mm-yyyy'))

insert into bill values (402,250,to_date('18-12-2020','dd-mm-yyyy'))

insert into bill values (403,700,to_date('19-12-2020','dd-mm-yyyy'))

insert into bill values (404,670,to_date('20-12-2020','dd-mm-yyyy'))

insert into bill values (405,425,to_date('21-12-2020','dd-mm-yyyy'))

select *

from bill

BILL_ID	AMMOUNT	VISITATION_DATE
401	400	17-DEC-20
402	250	18-DEC-20
403	700	19-DEC-20
404	670	20-DEC-20
405	425	21-DEC-20

insert into customerb values (301,'Rafi',401)

insert into customerb values (302,'Tafi',402)

insert into customerb values (303,'Akib',403)

insert into customerb values (304,'Nasif',404)

insert into customerb values (305,'Noyel',405)

select *

from customer

C_ID	C_NAME	BILL_ID
301	Rafi	401
302	Tafi	402
303	Akib	403
304	Nasif	404
305	Noyel	405

insert into manager values (501,'Tawhid Hasan','Mohakhali','tawhidrafi@gmail.com',10000)

select *

from manager

M_ID	M_NAME	ADDRESS	EMAIL	SAL
501	Tawhid Hasan	Mohakhali	tawhidrafi@gmail.com	10000

insert into employee values (601,'Rahim','Kuratoli',Null,1500,to_date('15-12-2020','dd-mm-yyyy'),501,201)

insert into employee values (602,'Karim','Nikunjo',Null,1500,to_date('15-12-2020','dd-mm-yyyy'),501,201)

insert into employee values (603,'Joynal','Bashundhara','joynal92@gmail.com',1500,to_date('15-12-2020','dd-mm-yyyy'),501,201)

select *

from employee

E_ID	E_NAME	ADDRESS	EMAIL	SAL	HIREDATE	M_ID	O_ID
601	Rahim	Kuratoli	-	1500	15-DEC-20	501	201
602	Karim	Nikunjo	-	1500	15-DEC-20	501	201
603	Joynal	Bashundhara	joynal92@gmail.com	1500	15-DEC-20	501	201

insert into m_fn values (501,01654783219)

select *

from m_fn

M_ID	PHONE
501	1654783219

Questions

1. **FIND OUT E MANAGER NAME AND SALARY FROM EMPLOYEE TABLE.**
2. **FIND OUT CUSTOMER ID AND NAME FROM COFFESHOP.**
3. **CREATE A VIEW IN OWNER TABLE.**
4. **FIND OUT NAME AND SALARY WHOSE SALARY IS GREATER THAN EMPLOYEE ID =603.**
5. **FIND OUT CUSTOMER NAME, BILL, AMOUNT AND VISITATION DATE.**
6. **SHOW ALL INFORMATION ABOUT COFFEE SHOP (RELATIONAL ALGEBRA).**
7. **FIND OUT OWNER'S ALL INFORMATION FROM COFFESHOP.**
8. **CREATE A TABLE FOP ONLY CUSTOMER ID AND CUSTOMER NAME.**
9. **ADD MENU COLUMN ON BLL TABLE.**
10. **FIND OUT AN EMPLOYEE NAME WHOSE NAME START WITH J.**