



AMERICAN INTERNATIONAL UNIVERSITY OF BANGLADESH

PROJECT: COFFE SHOP MANAGEMENT

COURSE: INTRODUCTION TO DATABASE

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Introduction:

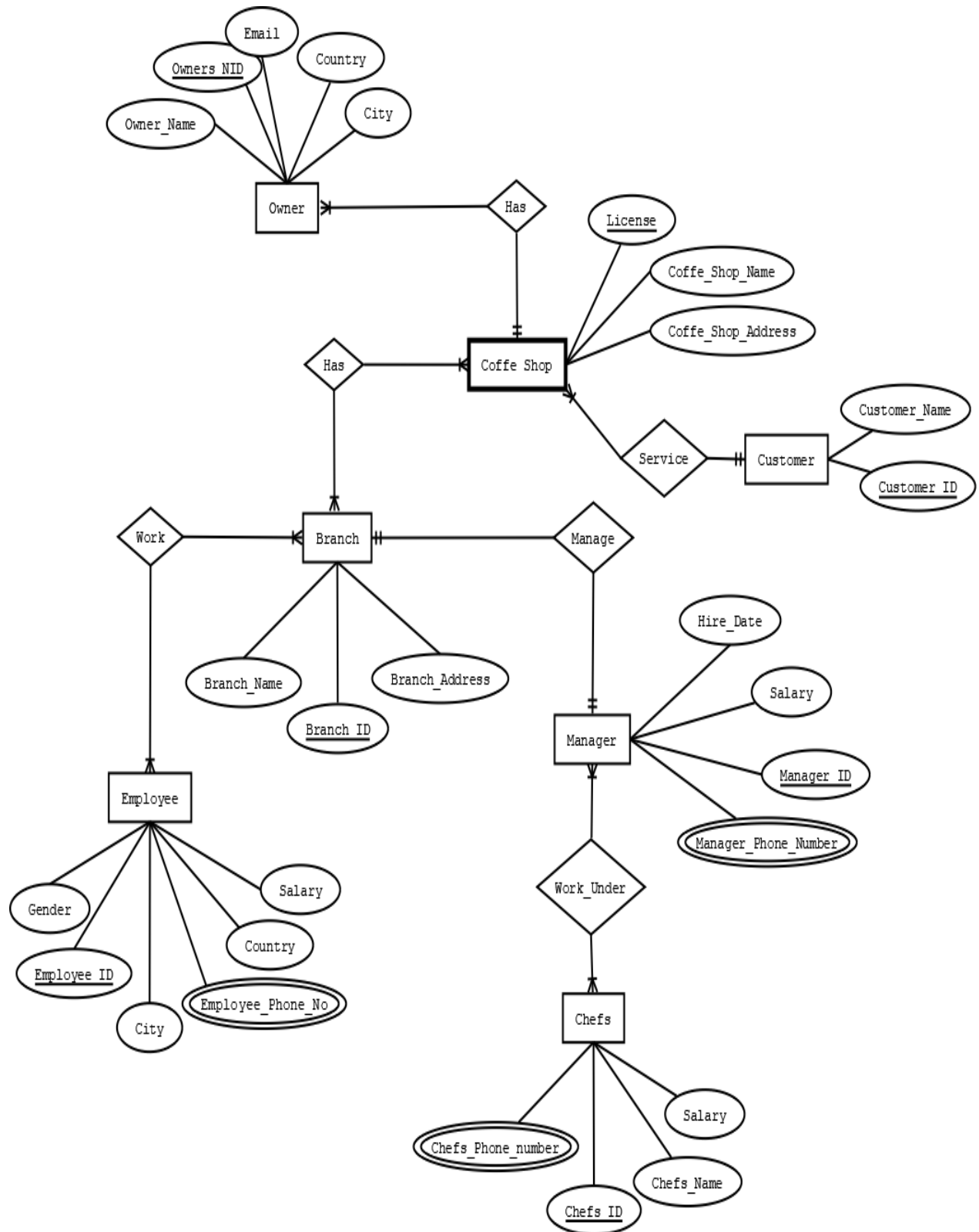
A database management system (DBMS) is a system software for creating and managing databases. The DBMS provides users and programmers with a systematic way to create, retrieve, update and manage data. A DBMS makes it possible for end users to create, read, update and delete data in a database.

In our project (Coffee Shop Management System) was created by the concept of DBMS.

Case Study:

In a coffee shop management system a coffee shop can have one or many owners and also owners can have one or many coffee shop. Owners are identified by owner nid. Shop also stores owners name, email, city, country . The shop is identified by shop license. System also stores coffee shop name, coffee shop address . Coffee shop can have one or many customers at a time . Customers are identified by customer id . System also stores customer name. A coffee shop can have many branches but branches belongs to one coffee shop. Branches are identified by branch id. System also stores branch name, branch address . Branch has employees. Branch can have one or many employees but employees can work in one shop . Employees are identified by employee id . System also stores employee name, gender, phone number, salary, city, country . A branch of a coffee shop can have one or many managers and a manager can work in one shop . Managers are identified by manager id. System also stores manager name, phone number, hire date, salary . One manager controls many chefs but chefs works under only one manager . Chefs are identified by chefs id. System also stores chefs name, salary, phone number .

ER-DIAGRAM:



Normalization:

Has (Owners_NID,Owners_Name,Email,Country,City,License,Coffe_Shop_Name,
Coffe_Shop_Address)

1NF: No multivalued attribute

2NF: Owners_NID,Owners_Name,Email,City,Country

License,Coffe_Shop_Name,Coffe_Shop_Addres

Ol_ID,Owners_NID,License

3NF: Owners_NID,Owners_Name,Email,~~City,Country~~,Cc_ID

License,Coffe_Shop_Name,Coffe_Shop_Addres

Ol_ID,Owners_NID,License

Cc_ID,Country,City

TABLE:

1. Owners_NID,Owners_Name,Email,Cc_ID

2.License,Coffe_Shop_Name,Coffe_Shop_Addres

3.Ol_ID,Owners_NID,License

4.Cc_ID,Country,City

Service (Customer_Name,Customer_ID,License,Coffe_Shop_Name,
Coffe_Shop_Address)

1NF: No multivalued attribute

2NF: Customer_ID,Customer_Name

License,Coffe_Shop_Name,Coffe_Shop_Address,Customer_ID

3NF: No Transitive Dependency

TABLE:

1. Customer_ID, Customer_Name

2. License, Coffe_Shop_Name, Coffe_Shop_Address, Customer_ID

Has (License, Coffe_Shop_Name, Coffe_Shop_Address, Branch_ID, Branch_Address, Branch_Name)

1NF: No multivalued attribute

2NF: License, Coffe_Shop_Name, Coffe_Shop_Addree

Branch_ID, Branch_Address, Branch_Name

Lb_ID, License, Branch_ID

3NF: No Transitive Dependency

TABLE:

1. License, Coffe_Shop_Name, Coffe_Shop_Addree

2. Branch_ID, Branch_Address, Branch_Name

3. Lb_ID, License, Branch_ID

Work (Branch_ID, Branch_Address, Branch_Name, Employee_ID, Salary, Gender, Employee_Phone_Number, City, Country)

1NF: Employee_Phone_Number multivalued attribute

2NF: Branch_ID, Branch_Address, Branch_Name

Employee_ID, Salary, Gender, Employee_phone_Number, City, Country

Be_ID, Branch_ID, Employee_ID

3NF: Branch_ID, Branch_Address, Branch_Name

Employee_ID, Salary, Gender, Employee_phone_Number, ~~City, Country~~, Cc_ID

Be_ID,Branch_ID,Employee_ID

Cc_ID,City,Country

TABLE:

1. Branch_ID,Branch_Address,Branch_Name

2. Employee_ID,Salary,Gender,Employee_phone_Number,Cc_ID

3. Be_ID,Branch_ID,Employee_ID

4. Cc_ID,City,Country

Manage (Manager_ID,Hire_Date,Salary,Manager_Phone_Number,Branch_ID,
Branch_Address,Branch_Name)

1NF: Manager_Phone_Number multivalued attribute

2NF: Manager_ID,Hire_Date,Salary,Manager_Phone_Number
Branch_ID,Branch_Address,Branch_Name,Manager_ID

3NF: No Transitive Dependency

TABLE:

1. Manager_ID,Hire_Date,Salary,Manager_Phone_Number

2. Branch_ID,Branch_Address,Branch_Name,Manager_ID

Work Under (Manager_ID,Hire_Date,Salary,Manager_Phone_Number,Chefs_ID,
Salary,Chefs_Name,Chefs_Phone_Number)

1NF: Manager_Phone_Number,Chefs_Phone_Nmuber are multivalued attribute

2NF: Manager_ID,Hire_Date,Salary,Manager_Phone_Number
Chefs_ID,Salary,Chefs_name,Chefs_Phone_Number
Mc_ID,Manager_ID,Chefs_ID

3NF: No Transitive Dependency

TABLE:

1. Manager_ID, Hire_Date, Salary, Manager_Phone_Number
2. Chefs_ID, Salary, Chefs_name, Chefs_Phone_Number
3. Mc_ID, Manager_ID, Chefs_ID

TOTAL TABLE:

1. Owners_NID, Owners_Name, Email, Cc_ID
2. ~~License, Coffe_Shop_Name, Coffe_Shop_Addres~~
3. OI_ID, Owners_NID, License
4. Cc_ID, Country, City
5. Customer_ID, Customer_Name
6. License, Coffe_Shop_Name, Coffe_Shop_Address, Customer_ID
7. ~~License, Coffe_Shop_Name, Coffe_Shop_Addree~~
8. Branch_ID, Branch_Address, Branch_Name
9. Lb_ID, License, Branch_ID
10. ~~Branch_ID, Branch_Address, Branch_Name~~
11. Employee_ID, Salary, Gender, Employee_phone_Number, Cc_ID
12. Be_ID, Branch_ID, Employee_ID
13. ~~Cc_ID, City, Country~~
14. Manager_ID, Hire_Date, Salary, Manager_Phone_Number
15. Branch_ID, Branch_Address, Branch_Name, Manager_ID
16. ~~Manager_ID, Hire_Date, Salary, Manager_Phone_Number~~
17. Chefs_ID, Salary, Chefs_name, Chefs_Phone_Number
18. Mc_ID, Manager_ID, Chefs_ID

FINAL TABLE:

1. Owners_NID, Owners_Name, Email, Cc_ID
2. Ol_ID, Owners_NID, License
3. Cc_ID, Country, City
4. Customer_ID, Customer_Name
5. License, Coffe_Shop_Name, Coffe_Shop_Address, Customer_ID
6. Branch_ID, Branch_Address, Branch_Name
7. Lb_ID, License, Branch_ID
8. Employee_ID, Salary, Gender, Employee_phone_Number, Cc_ID
9. Be_ID, Branch_ID, Employee_ID
10. Manager_ID, Hire_Date, Salary, Manager_Phone_Number
11. Branch_ID, Branch_Address, Branch_Name, Manager_ID
12. Chefs_ID, Salary, Chefs_name, Chefs_Phone_Number
13. Mc_ID, Manager_ID, Chefs_ID


```
create table owner
```

owner_name varchar2(25) not null,

owner_city varchar2(10) unique,

owner_country varchar2(10) unique

)

desc owner

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
OWNER	OWNER_NID	Number	-	5	0	1	-	-	-
	OWNER_NAME	Varchar2	25	-	-	-	-	-	-
	OWNER_EMAIL	Varchar2	25	-	-	-	-	-	-
	OWNER_CITY	Varchar2	10	-	-	-	✓	-	-
	OWNER_COUNTRY	Varchar2	10	-	-	-	✓	-	-

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Language: en-us

```
create table customer
```

customer_name varchar2(10) unique)

Desc customer

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER	CUSTOMER_ID	Number	-	20	0	1	-	-	-
	CUSTOMER_NAME	Varchar2	10	-	-	-	✓	-	-

```
create table coffee_shop
(coffee_license varchar2(20) not null,
coffee_name varchar2(10)unique,
coffee_address varchar2(10)not null)
desc coffee_shop
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
COFFEE_SHOP	COFFEE_LICENSE	Varchar2	20	-	-	-	-	-	-
	COFFEE_NAME	Varchar2	10	-	-	-	✓	-	-
	COFFEE_ADDRESS	Varchar2	10	-	-	-	-	-	-
	OWNER_NID	Number	-	20	0	-	✓	-	-

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```
Create table branch
(
branch_id number(20) default 1,
branch_name varchar2(20) constraint branch_bname_pk primary key,
branch_address varchar2(10) not null
)
desc branch
```

Results Explain Describe Saved SQL History

Object Type TABLE Object BRANCH

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
BRANCH	BRANCH_ID	Number	-	20	0	-	✓	1	-
	BRANCH_NAME	Varchar2	20	-	-	1	-	-	-
	BRANCH_ADDRESS	Varchar2	10	-	-	-	-	-	-

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Create table employee

(e_id varchar2(5) constraint employee_eid_pk primary key,
salary number(6) constraint employee_salary_ck check(salary<2000),
e_gender varchar2(2) not null,
e_pnumber number(15) default 100,
e_city varchar2(10) not null,
e_country varchar2(10) not null)

desc employee

Object Type TABLE Object EMPLOYEE									
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	E_ID	Varchar2	5	-	-	1	-	-	-
	SALARY	Number	-	6	0	-	✓	-	-
	E_GENDER	Varchar2	2	-	-	-	-	-	-
	E_PNUMBER	Number	-	15	0	-	✓	100	-
	E_CITY	Varchar2	10	-	-	-	-	-	-
	E_COUNTRY	Varchar2	10	-	-	-	-	-	-
									1 - 6

create table manager

(m_id number(10) not null,
salary number(10) constraint manager_msalary_pk primary key,
m_hire_date varchar2(20) unique,
m_pnumber number(10) default 300,
e_id number(10) not null)

desc manager

Object Type **TABLE** Object **MANAGER**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>MANAGER</u>	<u>M_ID</u>	Number	-	10	0	-	-	-	-
	<u>SALARY</u>	Number	-	10	0	1	-	-	-
	<u>M_HIRE_DATE</u>	Varchar2	20	-	-	-	✓	-	-
	<u>M_PNUMBER</u>	Number	-	10	0	-	✓	300	-
	<u>E_ID</u>	Number	-	10	0	-	-	-	-
									1 - 5

create table chefs

(chef_id number(20) constraint chefs_cid_pk primary key,

salary number(8) constraint chefs_salary_ck check(salary>1000),

chef_name varchar2(20) not null,

chef_pnumber number(10) unique)

desc chefs

Object Type **TABLE** Object **CHEFS**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>CHEFS</u>	<u>CHEF_ID</u>	Number	-	20	0	1	-	-	-
	<u>CHEF_NAME</u>	Varchar2	20	-	-	-	✓	-	-
	<u>SALARY</u>	Number	-	8	0	-	✓	-	-
	<u>CHEF_PNUMBER</u>	Number	-	10	0	-	-	-	-
									1 - 4

Insertion :

insert into owner

(owner_Nid,owner_name,owner_email,owner_city,owner_country)values(101,'Anik','taanik13@gmail.com','chittagong','bangladesh')

insert into

owner(owner_Nid,owner_name,owner_email,owner_city,owner_country)values(102,'tanim','tanim@gmail.com','feni','london')

insert into

```
owner(owner_Nid,owner_name,owner_email,owner_city,owner_country)values(103,'Alex','Alex@gmail.com','toronto','canada')
```

insert into

```
owner(owner_Nid,owner_name,owner_email,owner_city,owner_country)values(104,'john','john@gmail.com','regina','UK')
```

insert into

```
owner(owner_Nid,owner_name,owner_email,owner_city,owner_country)values(105,'Bob','bob@gmail.com','manitoba','USA')
```

select * from owner

Results Explain Describe Saved SQL History

OWNER_NID	OWNER_NAME	OWNER_EMAIL	OWNER_CITY	OWNER_COUNTRY
101	Anik	taanik@gmail.com	chittagong	bangladesh
102	tanim	tanim@gmail.com	feni	london
103	Alex	Alex@gmail.com	toronto	canada
104	john	john@gmail.com	regina	UK
105	Bob	bob@gmail.com	manitoba	USA

insert into customer

```
(customer_id,customer_name)values(1,'Anik')
```

```
insert into customer(customer_id,customer_name)values(2,'Tanim')
```

```
insert into customer(customer_id,customer_name)values(3,'Nabil')
```

```
insert into customer(customer_id,customer_name)values(4,'Jakaria')
```

```
insert into customer(customer_id,customer_name)values(5,'Joy')
```

select * from customer

Results	Explain	Describe	Saved SQL	History
---------	---------	----------	-----------	---------

CUSTOMER_ID	CUSTOMER_NAME
1	Anik
2	Tanim
3	Nabil
4	Jakaria
5	Joy

insert into coffee_shop

(coffee_license,coffee_name,coffee_address,owner_Nid)values(123,'Khanas','Dhaka',101)

insert into coffee_shop

(coffee_license,coffee_name,coffee_address,owner_Nid)values(111,'Bachelors','banani',102)

insert into

coffee_shop(coffee_license,coffee_name,coffee_address,owner_Nid)values(243,'gulshan','Dhanmondi',103)

insert into

coffee_shop(coffee_license,coffee_name,coffee_address,owner_Nid)values(546,'Sultans','Nikunjo2',104)

insert into

coffee_shop(coffee_license,coffee_name,coffee_address,owner_Nid)values(786,'cafeteria','mirpur',105)

select * from coffee_shop

Results	Explain	Describe	Saved SQL	History
---------	---------	----------	-----------	---------

COFFEE_LICENSE	COFFEE_NAME	COFFEE_ADDRESS	OWNER_NID
123	Khanas	Dhaka	101
111	Bachelors	banani	102
243	gulshan	Dhanmondi	103
546	Sultans	Nikunjo2	104
786	cafeteria	mirpur	105

5 rows returned in 0.08 seconds

[CSV Export](#)

insert into branch(branch_id,branch_name,branch_address)values(101,'Nikkunjo','Khilkhet')

```

insert into branch(branch_id,branch_name,branch_address)values(102,'Moghol','Uttara')
insert into branch(branch_id,branch_name,branch_address)values(103,'Chilies','Banani')
insert into branch(branch_id,branch_name,branch_address)values(104,'Foodies','Rajshahi')
insert into branch(branch_id,branch_name,branch_address)values(105,'Gulshan','Nilkhet')
select * from branch

```

Results Explain Describe Saved SQL History

BRANCH_ID	BRANCH_NAME	BRANCH_ADDRESS
101	Nikkunjo	Khilkhet
102	Moghol	Uttara
103	Chilies	Banani
104	Foodies	Rajshahi
105	Gulshan	Nilkhet

```

insert into employee(e_id,salary,e_gender,e_pnumber,e_city,e_country)values
(01,10000,'Male',01635942353,'mirpur' , 'Dhaka')
insert into employee(e_id,salary,e_gender,e_pnumber,e_city,e_country)values
(02,15000,'Male',01634672353,'Dhanmondi' , 'Dhaka')
insert into employee(e_id,salary,e_gender,e_pnumber,e_city,e_country)values
(03,20000,'female',01633842353,'uttara' , 'Dhaka')
insert into employee(e_id,salary,e_gender,e_pnumber,e_city,e_country)values
(04,25000,'female',01735942353,'Gulshan' , 'Dhaka')
insert into employee(e_id,salary,e_gender,e_pnumber,e_city,e_country)values
(05,50000,'Male',01835942353,'Banani' , 'Dhaka')
select * from employee

```

Results Explain Describe Saved SQL History

E_ID	SALARY	E_GENDER	E_PNUMBER	E_CITY	E_COUNTRY
1	10000	Male	1635942353	mirpur	Dhaka
2	15000	Male	1634672353	Dhanmondi	Dhaka
3	20000	female	1633842353	uttara	Dhaka
4	25000	female	1735942353	Gulshan	Dhaka
5	50000	Male	1835942353	Banani	Dhaka

5 rows returned in 0.00 seconds

[CSV Export](#)

```
insert into manager(m_id,salary,m_hire_date,m_pnumber,e_id)values(111,10000,'10 jan 2010',485465,1)
```

```
insert into manager(m_id,salary,m_hire_date,m_pnumber,e_id)values(222,15000,'15 feb 2011',4845465,2)
```

```
insert into manager(m_id,salary,m_hire_date,m_pnumber,e_id)values(333,20000,'12 may 2010',485485,3)
```

```
insert into manager(m_id,salary,m_hire_date,m_pnumber,e_id)values(444,18000,'03 jan 2012',42346,4)
```

```
insert into manager(m_id,salary,m_hire_date,m_pnumber,e_id)values(555,14000,'25 april 2013',485675,5)
```

```
select *from manager
```

M_ID	SALARY	M_HIRE_DATE	M_PNUMBER	E_ID
111	10000	10 jan 2010	485465	1
222	15000	15 feb 2011	4845465	2
333	20000	12 may 2010	485485	3
444	18000	03 jan 2012	42346	4
555	14000	25 april 2013	485675	5

5 rows returned in 0.00 seconds

[CSV Export](#)

```
insert into chefs(chef_id,salary,chef_name,chef_pnumber)values(01,5000,'Tohidul',01748739)
```

```
insert into chefs(chef_id,salary,chef_name,chef_pnumber)values(02,6000,'Istiaq',01848739)
```



```
insert into chefs(chef_id,salary,chef_name,chef_pnumber)values(03,7000,'Hossain',01948739)
```

```
insert into chefs(chef_id,salary,chef_name,chef_pnumber)values(04,8000,'Sohan',02648739)
```

```
insert into
```

```
chefs(chef_id,salary,chef_name,chef_pnumber)values(05,9000,'Monowar',016748739)
```

```
select * from chefs
```

Results	Explain	Describe	Saved SQL	History
CHEF_ID	SALARY	CHEF_NAME	CHEF_PNUMBER	
1	5000	Tohidul	1748739	
2	6000	Istiaq	1848739	
3	7000	Hossain	1948739	
4	8000	Sohan	2648739	
5	9000	Monowar	16748739	

5 rows returned in 0.00 seconds [CSV Export](#)

Query Writing:(Subquery)

1 Write a query to display the employee id and salary whose salary is greater than employee id = 3 ?

Ans:

```
select e_id,salary from employee
```

```
where salary > (select salary from employee where e_id = 3)
```

E_ID	SALARY
4	25000
5	50000

2. Write a query to display the employee id and salary for all employees who earn more than the minimum salary (Employees table)

Ans:

```
select e_id,salary from employee where salary > (select min(salary) from employee )
```

E_ID	SALARY
2	15000
3	20000
4	25000
5	50000

4 rows returned in 0.04 seconds

3. Write a query to display the customer name?

Ans:

```
select customer_name from customer where customer_id in(select customer_id from customer)
```

CUSTOMER_NAME
Anik
Tanim
Nabil
Jakaria
Joy

5 rows returned in 0.30 seconds

Join Query :

1. Write a query to display the owner name,Nid,coffeeshop name from coffee shop table?

Ans: select o.owner_name,o.owner_Nid,c.coffee_name from owner o , coffee_shop c where o.owner_Nid = c.owner_Nid

OWNER_NAME	OWNER_NID	COFFEE_NAME
Anik	101	Khanas
tanim	102	Bachelors
Alex	103	gulshan
john	104	Sultans
Bob	105	cafeteria

5 rows returned in 0.11 seconds

[CSV Export](#)

2. Write a query to display the employee id , employee salary , manager id , manager salary from manager table?

Ans: select e.e_id ,e.salary, m.m_id ,m.salary from employee e , manager m where e.e_id = m.e_id

Results Explain Describe Saved SQL History

E_ID	SALARY	M_ID	SALARY
1	10000	111	10000
2	15000	222	15000
3	20000	333	20000
4	25000	444	18000
5	50000	555	14000

5 rows returned in 0.06 seconds

[CSV Export](#)

3. Write a query to display the employee id , city,country,manager hiredate,phone number from manager table?

Ans: select e.e_id ,e.e_city, e.e_country,m.m_hire_date,m.m_pnumber from employee e , manager m
where e.e_id = m.e_id

E_ID	E_CITY	E_COUNTRY	M_HIRE_DATE	M_PNUMBER
1	mirpur	Dhaka	10 jan 2010	485465
2	Dhanmondi	Dhaka	15 feb 2011	4845465
3	uttara	Dhaka	12 may 2010	485485
4	Gulshan	Dhaka	03 jan 2012	42346
5	Banani	Dhaka	25 april 2013	485675

5 rows returned in 0.00 seconds

[CSV Export](#)

Group Function

1. Write a query to display average salary, maximum salary, minimum salary, sum of salary for employee table?

select avg(salary),max(salary),min(salary),sum(salary) from employee

AVG(SALARY)	MAX(SALARY)	MIN(SALARY)	SUM(SALARY)
24000	50000	10000	120000

1 rows returned in 0.13 seconds

[CSV Export](#)

2. Write a query to display the row number from employee?

select count(*) from employee

Results Explain Describe Saved SQL History

COUNT(*)
5

1 rows returned in 0.06 seconds

[CSV Export](#)

Single row function:

1. Write a single row function?

Ans : select e_id,concat(salary,e_gender)from employee

E_ID	CONCAT(SALARY,E_GENDER)
1	10000Male
2	15000Male
3	20000female
4	25000female
5	50000Male

5 rows returned in 0.00 seconds

[CSV Export](#)

View:

create or replace view emp90vu

as

select e_id,salary,e_gender from employee

where e_id = 4

select * from emp90vu

E_ID	SALARY	E_GENDER
4	25000	female

1 rows returned in 0.00 seconds

[CSV Export](#)

Conclusion:

THIS PROJECT IS ABOUT ON A COFEEE SHOP MANAGEMENT SYSTEMM .THIS IS NOT AN ONLINE BASED SYSTEM. THIS SYSTEM IS CREATE FOR MANAGING A LOCAL COFFEE SHOP WHERE COFFEE SHOP , OWNER MANAGER ,EMPLOYEE DETAILS ARE INCLUDED AND CUSTOMER ACTIVITIES ARE RECORDER . THIS SYSTEM CAN BE USEFUL FOR A LOCAL COFFEE SHOP WHO WANTS TO RECORD THEIR DAILYS ACTIVITIES.