AMERICAN INTERNATIONAL UNIVERSITY–BANGLADESH (AIUB)

FACULTY OF SCIENCE & TECHNOLOGY DEPARTMENT Of COMPUTER AND SCIENCE

INTRIDUCTION TO DATABASE

Fall 2022

Section:[A]

Group: 05

PROJECT ON

Pastry Shop Management System

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Submitted By

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Introduction

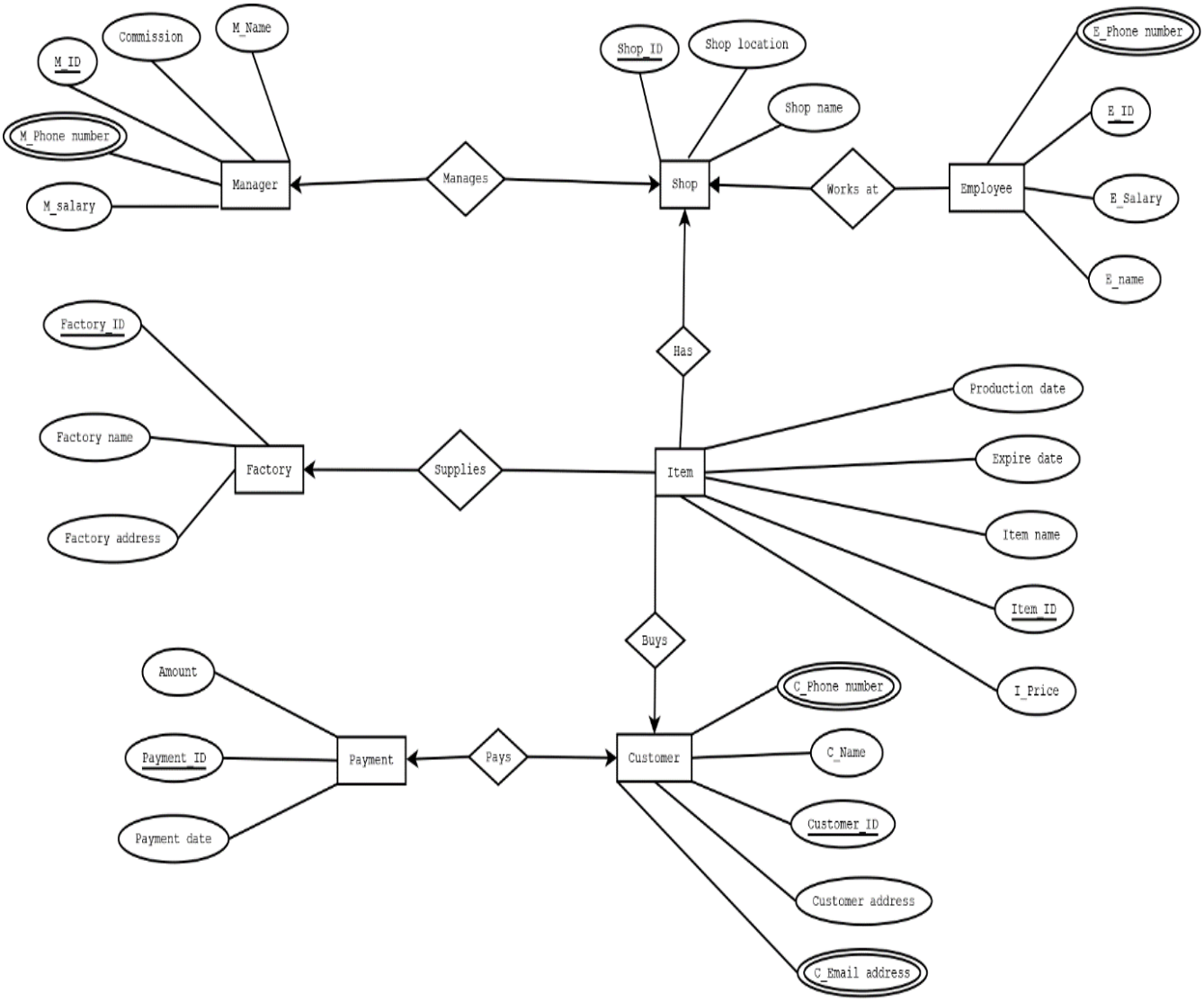
Now a days, we are living in the age of information and technology. In this era, we are highly dependent on data. That is why the importance of data in this era is immense. Database is a main means of data storage. A database is a collection of data, usually stored in electronic form. A database is typically designed so that it is easy to store and access information. A good database is crucial to any company or organization. This is because the database stores all the pertinent details about the company such as employee records, transactional records, salary details etc.

We designed a good and efficient database named as pastry shop management system where we stored a lot of information about a pastry shop. We stored its employee information, customer information, item information etc. Let's see the scenario and entity relation diagram of our projects.

Scenario Description

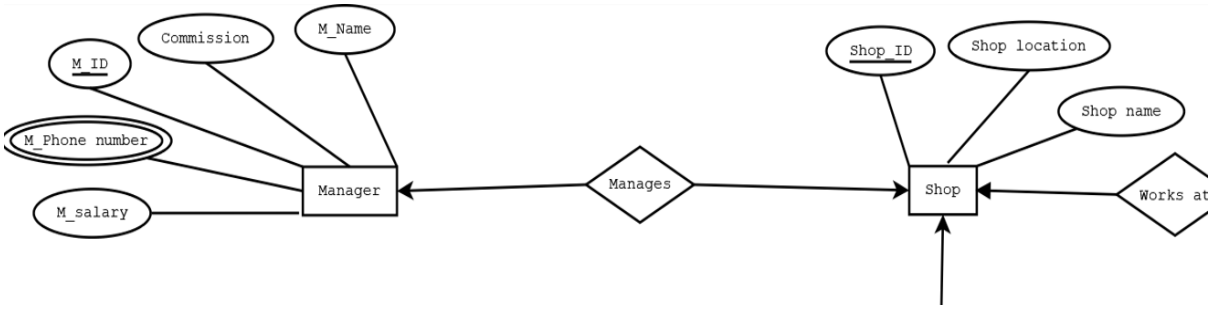
In a pastry shop management system one manager may manage one shop. The manager is identified by ID, phone number, commission. Name and salary of the manager are also stored. The manager may have many phones number. To identify a shop the system stores shop id along with shop location, shop name. The shop has many employees and the employee works at shop. Every employee has a name, salary and many phone numbers along with that they also have a unique employee ID. One shop has many items. Item is identified by Item ID. The system also stores production date, item name, price and expire date. One item may supply from one factory. Many factories may supply one item. A factory is identified by factory ID. The information about factory name, factory address are also stored. One item may buy by a customer. Many customers may buy one item. Customer is identified by customer ID. The system also stores the customer's name, customer address, customer email address, customer phone number. There may be multiple phone number and email address of a customer. One customer pays by a payment. A payment is identified by payment ID. The system stores data about payment date and amount. Now draw the ER diagram from the scenario

ER Diagram


M_ID
Commission
M_Name
M_Phone number
M_salary
Manager
Manages
Shop_ID
Shop location
Shop name
Shop
Works at
Employee
E_Phone number
E_ID
E_Salary
E_name
Has
Factory_ID
Factory name
Factory address
Factory
Supplies
Item
Production date
Expire date
Item name
Item_ID
I_Price
Buys
Amount
Payment_ID
Payment date
Payment
Pays
Customer
C_Phone number
C_Name
Customer_ID
Customer address
C_Email address

Normalization

Branch: Manages



UNF

manages (M_salary, M_Phonenumber, M_ID, Commission, M_name, Shop_ID, Shop_location, Shop_name)

1NF

M_Phone number is a multivalued attribute.

1.M_salary, M_Phonenumber, M_ID, Commission, M_name, Shop_ID Shop_location, Shop_name.

2NF

1. M_salary, M_Phone number, M_ID , Commission, M_name

2.Shop id, Shop_location, Shop_name.

3NF

There is no transitive dependencies, relation already in 3NF.

1.M_Salary, M_Phone number, M__id Commission, M_ name.

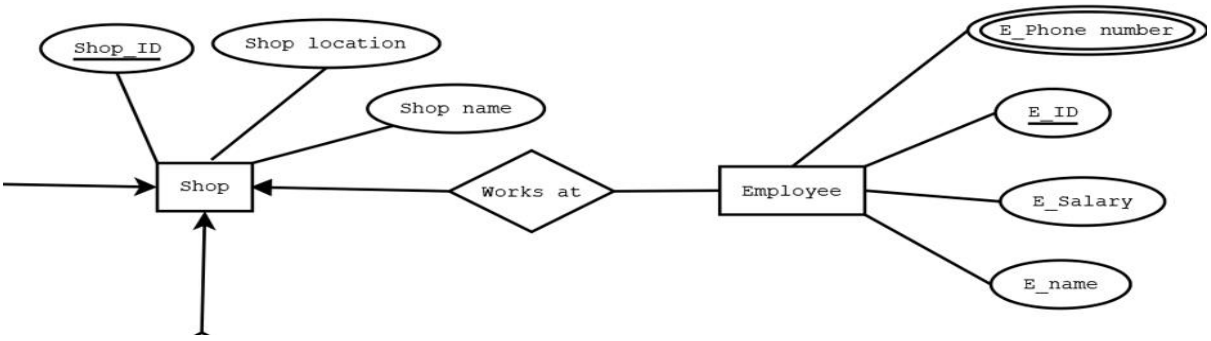
2.Shop_id, Shop_location, Shop_name.

Table Creation

1.M_Salary, M_Phonenumber, M_ID, Commission, M_name

2. Shop_id, Shop location, Shop name, **M_ID**

Branch: works at



UNF

works at (Shop_ID, Shop_location, Shop_name, E_Phonenumber, E- ID, E_Salary,

E_name)

1NF

E-phone number is a multivalued attribute.

1.Shop- ID, Shop location, Shop name, E_Phone number, E_ID, E_Salary, E_name.

2NF

1.Shop-ID, Shop location, Shop name,

2.E_Phone number, E_ID, E_Salary, E_name.

3NF

There is no transitive dependencies relation already in 3NF

1.Shop_id Shop location, shop name

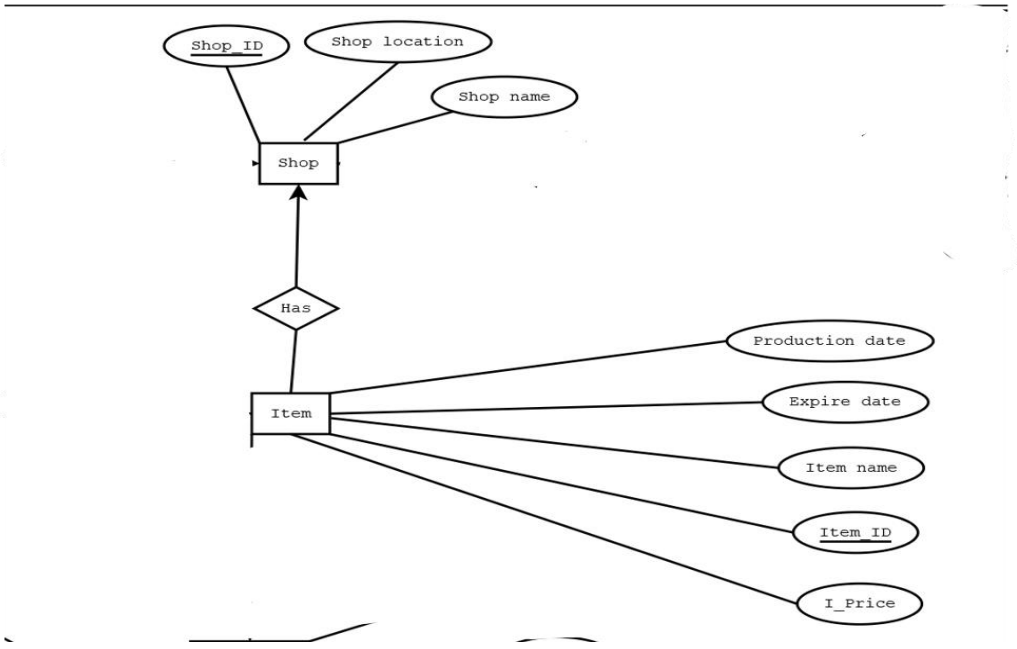
2.E_phone number, E_ID, E_Salary, E_name

Table creation

1.Shop_id, Shop_location, Shop_name

2.E_Phone number, E_ID, E_Salary, E_name, **Shop_id**.

Branch: Has



UNF

Has (Shop-id, shop location, shop name, Production date, Expire date, Item name,

Item_id, I- Price)

1NF

There is no multivalued attribute relation already in 1NF

1.Shop_ID, Shop_location, Shop_name, Production_date, Expire_date, Item_name, Item_ID, I_Price

2NF

1.Shop_ID, Shop_location, Shop_name

2.Production_date, Expire_date, Item_name, Item_ID, I_price.

3NF

1.Shop_id, Shop location, Shop name

2.Item name, Item_id, I_price

3.production date, Expire date.

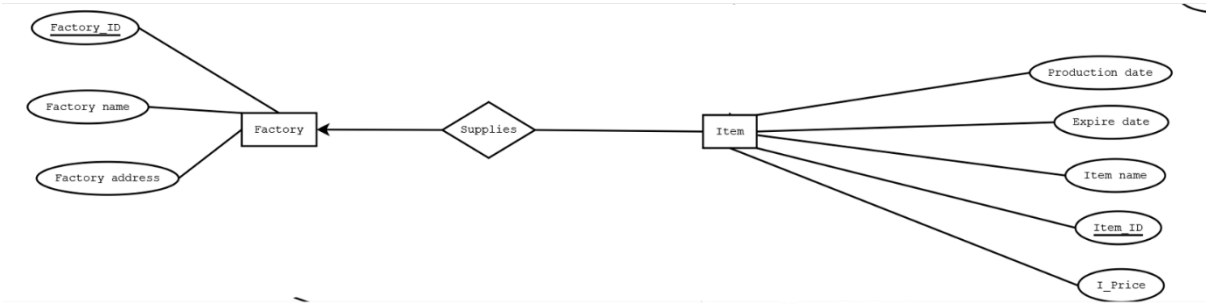
Table Creation

1.shop_id, shop location, shop name

2. Item name, Item_id, I- price, **Shop_id**, **Item date**

3. Item date, Production date, Expire date.

Branch: Supplies



UNF

Supplies (Factory_ID, Factory name, Factory_address, Production date, Expire date, Item name, Item_id, I_price)

1NF

There is no multivalued attribute relation already in 1NF

1.Factoty_id, factory name, factory adders, production date, Expire date, Item name, Item_id, I_Price.

2NF

1.Factory_id, factory name, factory address

2. Production date, Expire date, Item_name, Item_id, I_price.

3NF

1.Factory- ID, Factory_name, Factory_address

2.Item name, Item_id, I_price

3.Item_data, Production data, Expire data.

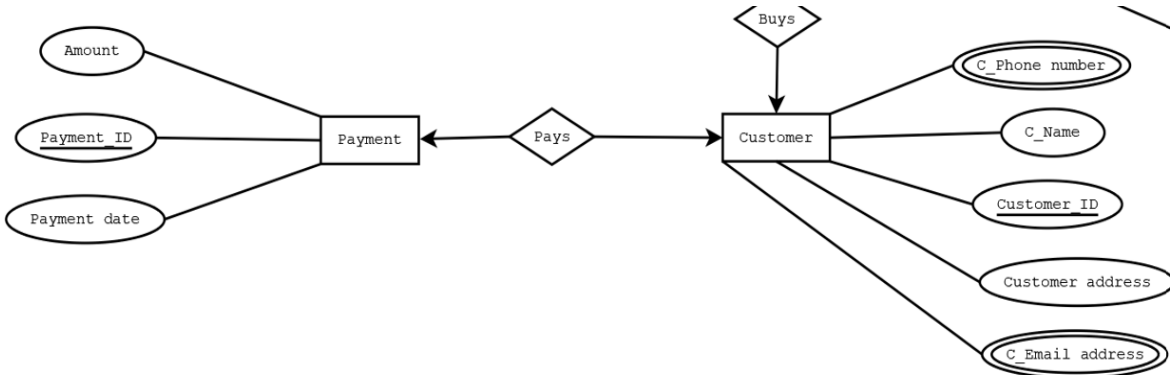
Table creation

1.Factory- id, Factory_name, factory adders

2. Item name, Item-id, I_price, **Factory_ID**, **Item_date**

3. Item date , production date, Expire date

Branch:Pays



UNF

Pays (Amount, Payment_ID, Payment_date, C_Phone number, C_Name, Customer_ID,

Customer_address, C_Email address)

1NF

C_Phone number, C_Email adders is a multivalued attribute

1.C_Phone number, C_Name, Customer_ID, Customer_address, C_Email address, Amount, Payment_ID, Payment date.

2NF

1.Amount, Payment_ID, Payment date

2.C_phone number, C_Name, Customer_ID, Customer_address, C_Email address

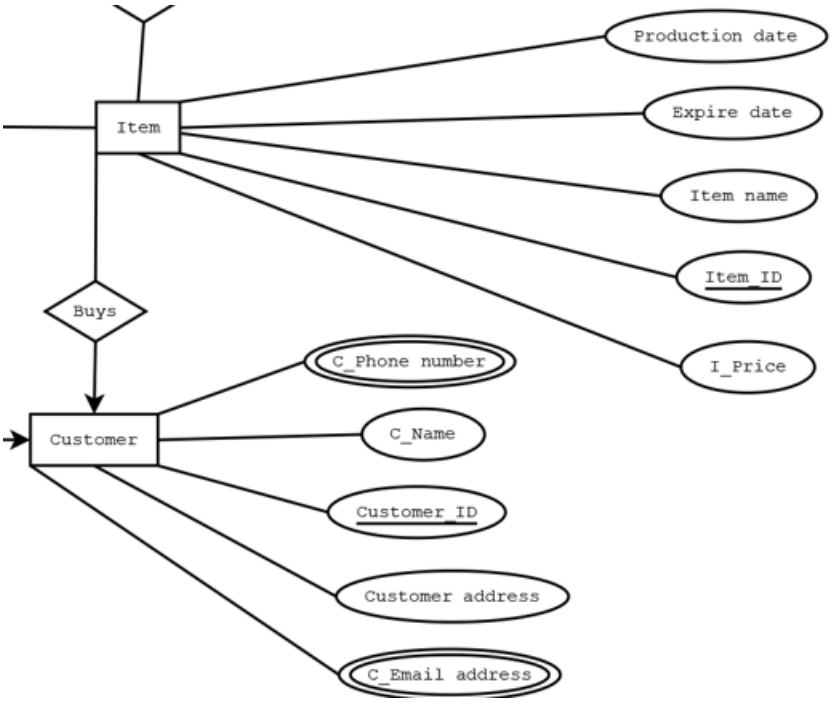
3NF

There is no transitive dependencies relation already In 3NF

1.Amount, Payment_ID, Payment date

2.C_phonenumber, C_Name, Customer_ID, Customer_address, C_Email address

Branch: Buys



UNF

Buys (Production date, Expire date,item name, Item_id, I_price,C_phone number, c_name, customer_id, customer address, c_email address.

1NF

C_Phone number, c_email address is multivalued attribute

1. Production date, Expire date,Item name, Item_Id, I_price, C_ Phonenumber,

C_name, customer_id, customer address,c_email address.

2NF

1.Production date, Expire date,Item name,Item_id, I_price

2. c_ phone number,c_name,customer id, customer adders,c_email adderss.

3NF

1.Item name,Item_id,I_price

2.customer_id ,c_name,c_phone number,customer address,customer email address

3.Item_date ,production date,Expire date

Table creation

1.Item name,Item_id,I_price,**customer_id,Item_date**

2.customer_id,c_name,c_phone number,customer address,customer email address

3.Item_date,production date,Expire date.

Table creation

1.Amount, Payment_id, payment date

2.C_phoneumber, C_Name, Customer_id, Customer_address, C_Email address, **Payment_ID**.

Temporary table

1.M_Salary, M_ Phone number, M- id, Commission, M_name

2. Shop-id, shop location, shop name, **M_id**

3.~~Shop_id, Shop_location, Shop_name~~

4. E_Phone number, E_ID, E_Salary, E-name, **shop_id**

5. ~~Shop_id, shop location, shop name~~

6. Item name, Item_id, I_price, **shop_id, Item date**

7. Item date, Production date, Expire date

8. Factory_ID, Factory name, factory address

9. Item name, Item_id, I_price, **Factory_ID**, **Item_date**

10. ~~Item date, production date, Expire date~~

11. Item_name, Item_id, I_price, **Customer_ID**, **Item_date**

12. ~~Customer_ID, C_Name, C_ Phone number, customer address, customer email address~~

13. ~~Item date, production date, Expire date~~

14. Amount, payment_id, Payment date

15.C_Phone number,c_name, customer_ID, customer address,c_email address, **Payment_ID**.

Finalization

Final table

1. M_Salary, M_Phone number1, M_Phonenumber2, M_ID, Commission, M_name

2. Shop_ID, shop location, Shop_name, **M_id**

3. E_Phone number 1, E_Phone number 2, E_ID, E_Salary, E_name, **Shop_id**

4. Item_name, Item_ID, I_price, **Shop_ID, Factory_ID, Customer_ID, Item_validity**

5.Itemvalidity, Production_date, Expire_date

6.Factory_id, Factory name, Factory address

7.Amount, Payment_ID, Payment_date

8.C_phonenumber1, C_phonenumber2, C_Name, Customer_ID, C_Email adress1, C_Email address2, **Payment_ID**, Customer_address, C_Name.

SCHEMA DIAGRAM

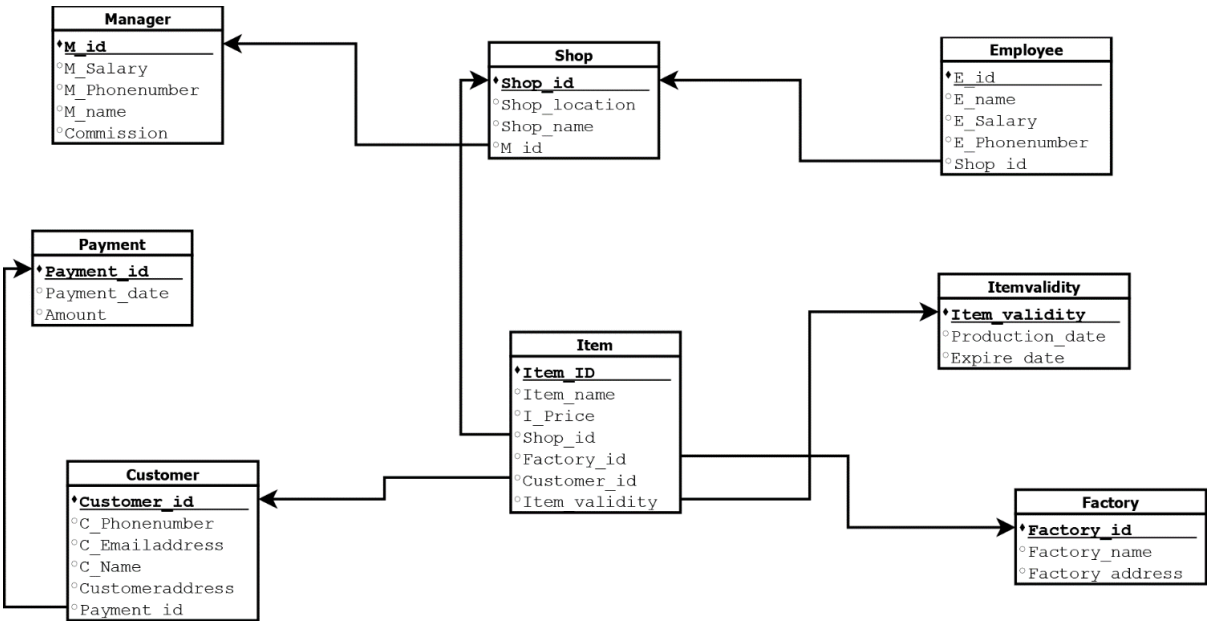


Table creation

1. create table manager (M_id Number (20) not null primary key,
   M_salary Number(30),
   M_Phonenumber1 Number(30),
   M_Phonenumber2 Number(30), M_name varchar2(30),
   commission number(20));

```
desc manager;
```

Results Explain Describe Saved SQL History

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

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
MANAGER	M_ID	Number	-	20	0	1	-	-	-
	M_SALARY	Number	-	30	0	-	✓	-	-
	M_PHONENUMBER1	Number	-	30	0	-	✓	-	-
	M_PHONENUMBER2	Number	-	30	0	-	✓	-	-
	M_NAME	Varchar2	30	-	-	-	✓	-	-
	COMMISSION	Number	-	20	0	-	✓	-	-

1 - 6

2. create table shop (Shop_id Number (20) not null primary key,
Shop_loaction varchar2(30),
Shop_name varchar2(30),
M_id number (30),
constraint mi foreign key (M_id) references manager (M_id));

```
desc shop;
```

Results Explain Describe Saved SQL History

Object Type **TABLE** Object **SHOP**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SHOP	SHOP_ID	Number	-	20	0	1	-	-	-
	SHOP_LOACTION	Varchar2	30	-	-	-	✓	-	-
	SHOP_NAME	Varchar2	30	-	-	-	✓	-	-
	M_ID	Number	-	30	0	-	✓	-	-

1 - 4

3. create table employee(E_id Number (20) not null primary key,
E_name varchar2(30),
E_salary number(20),
E_phonenumber1 Number(30),
E_phonenumber2 Number(30),

Shop_id Number(20),
constraint si foreign key (Shop_id) references shop (Shop_id));

```
desc employee;
```

Results Explain Describe Saved SQL History

Object Type **TABLE** Object **EMPLOYEE**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	E_ID	Number	-	20	0	1	-	-	-
	E_NAME	Varchar2	30	-	-	-	✓	-	-
	E_SALARY	Number	-	20	0	-	✓	-	-
	E_PHONENUMBER1	Number	-	30	0	-	✓	-	-
	E_PHONENUMBER2	Number	-	30	0	-	✓	-	-
	SHOP_ID	Number	-	20	0	-	✓	-	-

1 - 6

4. create table itemvalidity(Item_validity varchar2(30) not null primary key,
Production_date Date,
Expire_date Date);

```
desc itemvalidity;
```

Results Explain Describe Saved SQL History

Object Type **TABLE** Object **ITEMVALIDITY**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ITEMVALIDITY	ITEM_VALIDITY	Varchar2	30	-	-	1	-	-	-
	PRODUCTION_DATE	Date	7	-	-	-	✓	-	-
	EXPIRE_DATE	Date	7	-	-	-	✓	-	-

1 - 3

5. create table Factory(Factory_id Number (20) not null primary key,
Factory_name varchar2 (30),

Factory_address varchar2 (30));

```
desc Factory;
```

Results Explain Describe Saved SQL History

Object Type **TABLE** Object **FACTORY**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
FACTORY	FACTORY_ID	Number	-	20	0	1	-	-	-
	FACTORY_NAME	Varchar2	30	-	-	-	✓	-	-
	FACTORY_ADDRESS	Varchar2	30	-	-	-	✓	-	-

1 - 3

6. create table Payment(Payment_id Number (20) not null primary key,
   Payment_date Date,
   Amount Number (30));

```
desc Payment;
```

Results Explain Describe Saved SQL History

Object Type **TABLE** Object **PAYMENT**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
PAYMENT	PAYMENT_ID	Number	-	20	0	1	-	-	-
	PAYMENT_DATE	Date	7	-	-	-	✓	-	-
	AMOUNT	Number	-	30	0	-	✓	-	-

1 - 3

7. create table Customer(Customer_id Number (20) not null primary key,
C_Phonenumber1 Number (30),
C_Phonenumber2 Number (30),
C_Name varchar2 (30),
C_Emailaddress1 varchar2 (30),
C_Emailaddress2 varchar2 (30),
Customeraddress varchar2(30),
Payment_id Number (20),
constraint pi foreign key (Payment_id) references Payment (Payment_id));

```
desc Customer;
```

Results Explain Describe Saved SQL History

Object Type **TABLE** Object **CUSTOMER**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMER	CUSTOMER_ID	Number	-	20	0	1	-	-	-
	C_PHONENUMBER1	Number	-	30	0	-	✓	-	-
	C_PHONENUMBER2	Number	-	30	0	-	✓	-	-
	C_NAME	Varchar2	30	-	-	-	✓	-	-
	C_EMAILADDRESS1	Varchar2	30	-	-	-	✓	-	-
	C_EMAILADDRESS2	Varchar2	30	-	-	-	✓	-	-
	CUSTOMERADDRESS	Varchar2	30	-	-	-	✓	-	-
	PAYMENT_ID	Number	-	20	0	-	✓	-	-

1 - 8

8. create table Item(Item_Id Number (20) not null primary key,
Item_name varchar2 (30),
I_Price Number (20),
Shop_id Number (20),
Factory_id Number (20),
Customer_id Number (20),
Item_validity varchar2(30),
constraint sis foreign key (Shop_id) references Shop (Shop_id),
constraint fi foreign key (Factory_id) references Factory (Factory_id),
constraint ci foreign key (Customer_id) references Customer (Customer_id),
constraint iv foreign key (Item_validity) references itemvalidity (Item_validity));

```
desc Item;
```

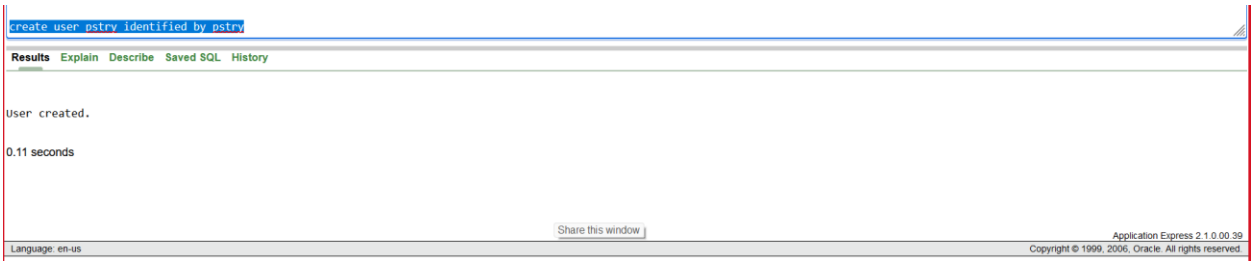
Results Explain Describe Saved SQL History

Object Type **TABLE** Object **ITEM**

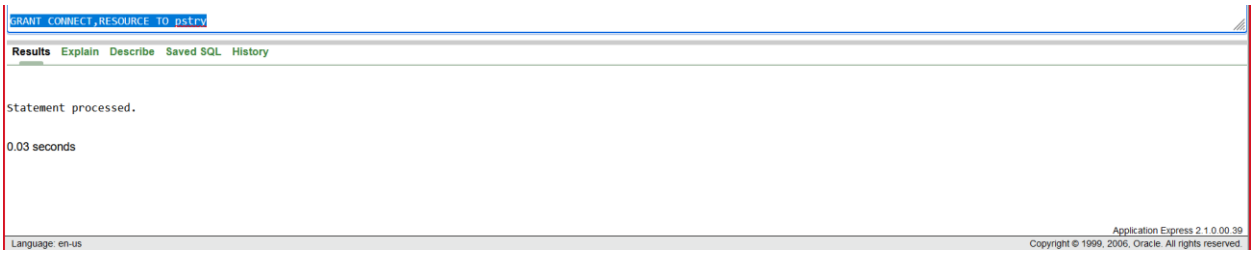
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ITEM	ITEM_ID	Number	-	20	0	1	-	-	-
	ITEM_NAME	Varchar2	30	-	-	-	✓	-	-
	I_PRICE	Number	-	20	0	-	✓	-	-
	SHOP_ID	Number	-	20	0	-	✓	-	-
	FACTORY_ID	Number	-	20	0	-	✓	-	-
	CUSTOMER_ID	Number	-	20	0	-	✓	-	-
	ITEM_VALIDITY	Varchar2	30	-	-	-	✓	-	-

1 - 7

create user pstry identified by pstry



GRANT CONNECT,RESOURCE TO pstry



Data Insertion

Manager Table:

insert into manager values(001,50000,01745547578,01747547575,'PROTTOY',5000);

```
select * from manager;
```

Results | Explain | Describe | Saved SQL | History

M_ID	M_SALARY	M_PHONENUMBER1	M_PHONENUMBER2	M_NAME	COMMISSION
1	50000	1745547578	1747547575	PROTTOY	5000

Shop Table:

insert into shop values(110,'GULSHAN','ORBIT PASTRY SHOP',1);

```
select * from shop;
```

Results | Explain | Describe | Saved SQL | History

SHOP_ID	SHOP_LOACTION	SHOP_NAME	M_ID
110	GULSHAN	ORBIT PASTRY SHOP	1

Employee Table:

```
insert into employee values(200,'REZOAN',20000,1928305531,1945578943,110);
insert into employee values(201,'MASUM',22000,1526209531,1935587803,110);
insert into employee values(202,'PROGGA',25000,1728303132,1943578943,110);
insert into employee values(203,'FARDIN',25000,1828325531,1941278743,110);
insert into employee values(204,'KOUSHIK',25000,13284325930,1935778943,110);
insert into employee values(205,'PIKU',25000,1748305531,1445578943,110);
insert into employee values(206,'SAIKAT',25000,1526309931,1945548949,110);
insert into employee values(207,'SHOVON',18000,1928305531,1945578443,110);
insert into employee values(208,'ROWDRA',30000,1929304531,1645578943,110);
insert into employee values(209,'HANIF',28000,1328355531,1745578943,110);
insert into employee values(210,'ANGSHU',27000,1528305531,1742578943,110);
```

```
select * from employee;
```

Results | Explain | Describe | Saved SQL | History

E_ID	E_NAME	E_SALARY	E_PHONENUMBER1	E_PHONENUMBER2	SHOP_ID
200	REZOAN	20000	1928305531	1945578943	110
201	MASUM	22000	1526209531	1935587803	110
202	PROGGA	25000	1728303132	1943578943	110
203	FARDIN	25000	1828325531	1941278743	110
204	KOUSHIK	25000	13284325930	1935778943	110
205	PIKU	25000	1748305531	1445578943	110
206	SAIKAT	25000	1526309931	1945548949	110
207	SHOVON	18000	1928305531	1945578443	110
208	ROWDRA	30000	1929304531	1645578943	110
209	HANIF	28000	1328355531	1745578943	110
210	ANGSHU	27000	1528305531	1742578943	110

Itemvalidity Table:

```
insert into itemvalidity values('two days',to_date('21-DEC-2022'),to_date('23-DEC-2022'));
insert into itemvalidity values('three days',to_date('21-DEC-2022'),to_date('24-DEC-2022'));
insert into itemvalidity values('four days',to_date('21-DEC-2022'),to_date('25-DEC-2022'));
insert into itemvalidity values('five days',to_date('21-DEC-2022'),to_date('26-DEC-2022'));
insert into itemvalidity values('six days',to_date('21-DEC-2022'),to_date('27-DEC-2022'));
insert into itemvalidity values('one days',to_date('21-DEC-2022'),to_date('22-DEC-2022'));
insert into itemvalidity values('seven days',to_date('21-DEC-2022'),to_date('28-DEC-2022'));
insert into itemvalidity values('eight days',to_date('21-DEC-2022'),to_date('29-DEC-2022'));
```

```
select * from itemvalidity;
```

Results Explain Describe Saved SQL History

ITEM_VALIDITY	PRODUCTION_DATE	EXPIRE_DATE
two days	21-DEC-22	23-DEC-22
three days	21-DEC-22	24-DEC-22
four days	21-DEC-22	25-DEC-22
five days	21-DEC-22	26-DEC-22
six days	21-DEC-22	27-DEC-22
one days	21-DEC-22	22-DEC-22
seven days	21-DEC-22	28-DEC-22
eight days	21-DEC-22	29-DEC-22

Factory:

insert into factory values(300,'ORBIT BAKERY INDUSTRY','GAZIPUR');

```
select * from factory;
```

Results Explain Describe Saved SQL History

FACTORY_ID	FACTORY_NAME	FACTORY_ADDRESS
300	ORBIT BAKERY INDUSTRY	GAZIPUR

Payment Table:

insert into payment values(501,to_date('22-DEC-2022'),500);

insert into payment values(502,to_date('23_DEC-2022'),1020);

insert into payment values(503,to_date('22_DEC-2022'),4000);

insert into payment values(505,to_date('23_DEC-2022'),970);

insert into payment values(506,to_date('24_DEC-2022'),5420);

insert into payment values(507,to_date('22_DEC-2022'),1000);

insert into payment values(508,to_date('21_DEC-2022'),2000);

insert into payment values(509,to_date('22_DEC-2022'),6000);

insert into payment values(510,to_date('23_DEC-2022'),600);

insert into payment values(511,to_date('22_DEC-2022'),3000);

insert into payment values(512,to_date('22_DEC-2022'),1000);

insert into payment values(513,to_date('26_DEC-2022'),1500);

insert into payment values(514,to_date('25_DEC-2022'),2500);

```
select * from payment;
```

Results Explain Describe Saved SQL History

PAYMENT_ID	PAYMENT_DATE	AMOUNT
501	22-DEC-22	500
502	23-DEC-22	1020
503	22-DEC-22	4000
505	23-DEC-22	970
506	24-DEC-22	5420
507	22-DEC-22	1000
508	21-DEC-22	2000
509	22-DEC-22	6000
510	23-DEC-22	600
511	22-DEC-22	3000
512	22-DEC-22	1000
513	26-DEC-22	1500
514	25-DEC-22	2500

13 rows returned in 0.00 seconds CSV Export

Customer Table:

insert into customer values(700,123789456,456789321,'SANJIB','sanjib3366161@gmail.com','sanjib123@gmail.com','BANANI',503);

insert into customer values(701,122714456,456781321,'PRONOY','pronoy61@gmail.com','pronoy3@gmail.com','UTTARA',501);

```
insert into customer
values(702,122714456,456781321,'BABITA','babita99@gmail.com','babita@gmail.com','MIRPU
R',505);

insert into customer
values(703,112734459,450731301,'BONHI','bonhi19@gmail.com','bonhi@gmail.com','NIKUNJA'
,502);

insert into customer
values(704,102715056,459781021,'PRATAP','pratap6189@gmail.com','pratap30@gmail.com','B
ADDA',509);

insert into customer
values(705,990126756,5567801321,'ABRAR','muhtasib01@gmail.com','muhtasib3@gmail.com',
'UTTARA',506);

insert into customer
values(706,770126756,9567801321,'Tanmoy','tanmoy01@gmail.com','tanmoy3@gmail.com','B
ADDA',507);

insert into customer
values(707,710120756,5567120131,'PEYASH','peyash01@gmail.com','peyash3@gmail.com','NI
KUNJA',508);

insert into customer
values(708,330126756,5676618921,'SHOWRAV','showrav91@gmail.com','showrav30@gmail.c
om','UTTARA',510);

insert into customer
values(709,990185376,7919451321,'SHATHI','shathi97@gmail.com','shathi87@gmail.com','KU
RIL',511);

insert into customer
values(710,173782756,24567801321,'GOUROB','gourob9591@gmail.com','gourob3025@gmail.
com','BADDA',512);
```

```
select * from customer;
```

Results Explain Describe Saved SQL History

CUSTOMER_ID	C_PHONENUMBER1	C_PHONENUMBER2	C_NAME	C_EMAILADDRESS1	C_EMAILADDRESS2	CUSTOMERADDRESS	PAYMENT_ID
700	123789456	456789321	SANJIB	sanjib3366161@gmail.com	sanjib123@gmail.com	BANANI	503
701	122714456	456781321	PRONOY	pronoy61@gmail.com	pronoy3@gmail.com	UTTARA	501
702	122714456	456781321	BABITA	babita99@gmail.com	babita@gmail.com	MIRPUR	505
703	112734459	450731301	BONHI	bonhi19@gmail.com	bonhi@gmail.com	NIKUNJA	502
704	102715056	459781021	PRATAP	pratap6189@gmail.com	pratap30@gmail.com	BADDA	509
705	990126756	5567801321	ABRAR	muhtasib01@gmail.com	muhtasib3@gmail.com	UTTARA	506
706	770126756	9567801321	Tanmoy	tanmoy01@gmail.com	tanmoy3@gmail.com	BADDA	507
707	710120756	5567120131	PEYASH	peyash01@gmail.com	peyash3@gmail.com	NIKUNJA	508
708	330126756	5676618921	SHOWRAV	showrav91@gmail.com	showrav30@gmail.com	UTTARA	510
709	990185376	7919451321	SHATHI	shathi97@gmail.com	shathi87@gmail.com	KURIL	511
710	173782756	24567801321	GOUROB	gourob9591@gmail.com	gourob3025@gmail.com	BADDA	512

Item:

insert into Item values(800,'RED VELVET PASTRY',300,110,300,700,'one days');

insert into Item values(801,'BLACK FOREST PASTRY',210,110,300,701,'one days');

insert into Item values(802,'VANILA PASTRY',250,110,300,701,'one days');

insert into Item values(803,'ORANGE PASTRY',350,110,300,700,'one days');

insert into Item values(804,'CHOCOLET PUFF PASTRY',400,110,300,703,'three days');

insert into Item values(805,'SHORT CRUST PASTRY',300,110,300,704,'three days');

insert into Item values(806,'VANILA PHYLO PASTRY',600,110,300,704,'three days');

insert into Item values(807,'CHOCOLATE CRUST PASTRY',300,110,300,704,'three days');

insert into Item values(808,'JAR VANILLA PASTRY',510,110,300,705,'four days');

insert into Item values(809,'JAR CAKE BUTTER PASTRY',610,110,300,705,'four days');

insert into Item values(810,'JAR RAINBOW PASTRY',450,110,300,705,'four days');

insert into Item values(811,'OPERA PASTRY',350,110,300,706,'four days');

insert into Item values(812,'CHOCOLATE CREAM ROLL',250,110,300,700,'two days');

insert into Item values(813,'CHOCOLATE BROWNIE',430,110,300,700,'two days');

insert into Item values(814,'STRAWBERRY SWIRL PASTRY',460,110,300,702,'two days');

insert into Item values(815,'CHOCOLATE CAKE',1000,110,300,706,'three days');

insert into Item values(816,'BUTTERSCOTCH CAKE',2000,110,300,703,'four days');

insert into Item values(817,'CHOCO VANILA CAKE',450,110,300,702,'four days');

insert into Item values(818,'CHOCO COFFEE CAKE',1100,110,300,707,'five days');

insert into Item values(819,'RED VELVET PREMIUM CAKE',2000,110,300,707,'five days');

insert into Item values(820,'COFFEE CAKE',600,110,300,708,'six days');

insert into Item values(821,'CHERRY CAKE',1500,110,300,709,'six days');

```
insert into Item values(822,'SUGAR DANISH BISCUITS',150,110,300,708,'seven days');
insert into Item values(823,'MEXICAN BURGER',250,110,300,710,'three days');
insert into Item values(824,'MEXICAN SUB SANDWICH',300,110,300,705,'three days');
insert into Item values(825,'DRY CAKE',500,110,300,705,'eight days');
insert into Item values(826,'CHOCOLATE COOKIES',450,110,300,710,'eight days');
insert into Item values(827,'SHINGARA',50,110,300,703,'one days');
```

```
select * from item;
```

Results Explain Describe Saved SQL History

ITEM_ID	ITEM_NAME	I_PRICE	SHOP_ID	FACTORY_ID	CUSTOMER_ID	ITEM_VALIDITY
800	RED VELVET PASTRY	300	110	300	700	one days
801	BLACK FOREST PASTRY	210	110	300	701	one days
802	VANILA PASTRY	250	110	300	701	one days
803	ORANGE PASTRY	350	110	300	700	one days
804	CHOCOLET PUFF PASTRY	400	110	300	703	three days
805	SHORT CRUST PASTRY	300	110	300	704	three days
806	VANILA PHYLO PASTRY	600	110	300	704	three days
807	CHOCOLATE CRUST PASTRY	300	110	300	704	three days
808	JAR VANILLA PASTRY	510	110	300	705	four days
809	JAR CAKE BUTTER PASTRY	610	110	300	705	four days
810	JAR RAINBOW PASTRY	450	110	300	705	four days
811	OPERA PASTRY	350	110	300	706	four days
812	CHOCOLATE CREAM ROLL	250	110	300	700	two days
813	CHOCOLATE BROWNIE	430	110	300	700	two days
814	STRAWBERRY SWIRL PASTRY	460	110	300	702	two days
815	CHOCOLATE CAKE	1000	110	300	706	three days
816	BUTTERSCOTCH CAKE	2000	110	300	703	four days
817	CHOCO VANILA CAKE	450	110	300	702	four days
818	CHOCO COFFEE CAKE	1100	110	300	707	five days
819	RED VELVET PREMIUM CAKE	2000	110	300	707	five days
820	COFFEE CAKE	600	110	300	708	six days
821	CHERRY CAKE	1500	110	300	709	six days
822	SUGAR DANISH BISCUITS	150	110	300	708	seven days
823	MEXICAN BURGER	250	110	300	710	three days
824	MEXICAN SUB SANDWICH	300	110	300	705	three days
825	DRY CAKE	500	110	300	705	eight days
826	CHOCOLATE COOKIES	450	110	300	710	eight days
827	SHINGARA	50	110	300	703	one days

Query Writing:

Single row query:

Q1 : Show the length of the e_name from the employee table.

Answer : select e_name, length(e_name) from employee;

```
select e_name, length(e_name) from employee;
```

Results | Explain | Describe | Saved SQL | History

E_NAME	LENGTH(E_NAME)
REZOAN	6
MASUM	5
PROGGA	6
FARDIN	6
KOUSHIK	7
PIKU	4
SAIKAT	6
SHOVON	6
ROWDRA	6
HANIF	5
ANGSHU	6

Q2 : Show payment_id and payment_date from the payment table. Covert the payment_date into character;

Answer : select payment_id, to_char(payment_date,' fmdd month yyyy') PAYMENT_DATE from payment;

```
select payment_id, to_char(payment_date,' fmdd month yyyy') PAYMENT_DATE from payment;
```

Results Explain Describe Saved SQL History

PAYMENT_ID	PAYMENT_DATE
501	22 december 2022
502	23 december 2022
503	22 december 2022
505	23 december 2022
506	24 december 2022
507	22 december 2022
508	21 december 2022
509	22 december 2022
510	23 december 2022
511	22 december 2022
512	22 december 2022
513	26 december 2022
514	25 december 2022

13 rows returned in 0.00 seconds CSV Export

Group Function:

Q1 : Display the sum of i_price grouped by the item_validity but the sum of i_price must be greater than 500.

Answer : select item_validity,sum(i_price) from item having sum(i_price)>500 group by item_validity;

```
select item_validity,sum(i_price) from item having sum(i_price)>500 group by
item_validity;
```

Results Explain Describe Saved SQL History

ITEM_VALIDITY	SUM(I_PRICE)
one days	1160
three days	3150
four days	4370
two days	1140
five days	3100
six days	2100
eight days	950

7 rows returned in 0.01 seconds CSV Export

Q2: Display the avarage of amount group by the payment date and amount must be greater than 1000.

Answer: select avg(amount) from payment group by payment_date having avg(amount)>1000;

```
select  avg(amount)  from payment  group by payment_date having avg(amount)>1000
```

Results Explain Describe Saved SQL History

AVG(AMOUNT)
2583.333333333333333333333333333333333
2000
1500
2500
5420

5 rows returned in 0.02 seconds CSV Export

Subquery:

Q1. Display the employee name who get shop wise highest amount of salary

Answer : select E_name from employee where E_salary in (select max(E_salary)

from employee
group by shop_id);

```
select E_name from employee where E_salary in (select max(E_salary)
from employee
group by shop_id);
```

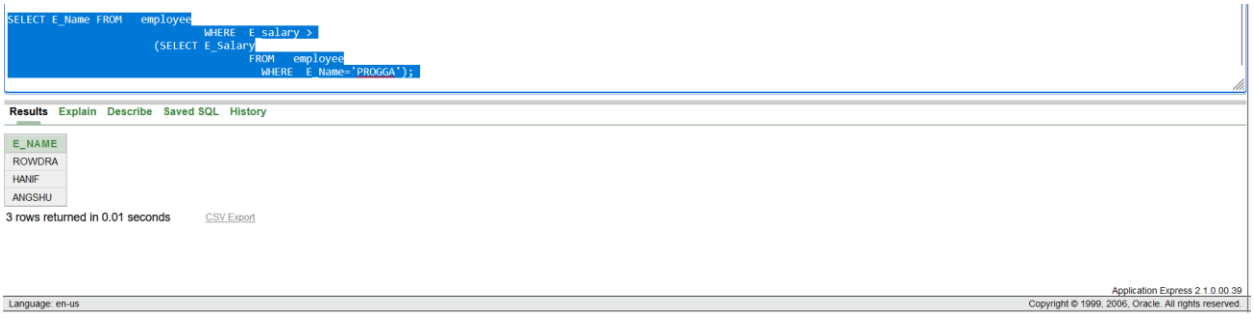
Results Explain Describe Saved SQL History

E_NAME
ROWDRA

Q2 : Display the employees name who earn more than employee PROGGA.

Answer :

```
SELECT E_Name FROM   employee
                     WHERE  E_salary >
                        (SELECT E_Salary
                          FROM   employee
                            WHERE  E_Name='PROGGA');
```



Joining:

Equijoin:

1. select item.item_name, item.i_price, item.item_validity, itemvalidity.production_date, itemvalidity.expire_date, itemvalidity.item_validity

   from item, itemvalidity

   where item.item_validity= itemvalidity.item_validity;

```
select item.item_name, item.i_price, item.item_validity,  itemvalidity.production_date, itemvalidity.expire_date, itemvalidity.item_validity
from item, itemvalidity
where item.item_validity= itemvalidity.item_validity;
```

Results Explain Describe Saved SQL History

ITEM_NAME	I_PRICE	ITEM_VALIDITY	PRODUCTION_DATE	EXPIRE_DATE	ITEM_VALIDITY
RED VELVET PASTRY	300	one days	21-DEC-22	22-DEC-22	one days
BLACK FOREST PASTRY	210	one days	21-DEC-22	22-DEC-22	one days
VANILA PASTRY	250	one days	21-DEC-22	22-DEC-22	one days
ORANGE PASTRY	350	one days	21-DEC-22	22-DEC-22	one days
CHOCOLET PUFF PASTRY	400	three days	21-DEC-22	24-DEC-22	three days
SHORT CRUST PASTRY	300	three days	21-DEC-22	24-DEC-22	three days
VANILA PHYLO PASTRY	600	three days	21-DEC-22	24-DEC-22	three days
CHOCOLATE CRUST PASTRY	300	three days	21-DEC-22	24-DEC-22	three days
JAR VANILLA PASTRY	510	four days	21-DEC-22	25-DEC-22	four days
JAR CAKE BUTTER PASTRY	610	four days	21-DEC-22	25-DEC-22	four days
JAR RAINBOW PASTRY	450	four days	21-DEC-22	25-DEC-22	four days
OPERA PASTRY	350	four days	21-DEC-22	25-DEC-22	four days
CHOCOLATE CREAM ROLL	250	two days	21-DEC-22	23-DEC-22	two days
CHOCOLATE BROWNIE	430	two days	21-DEC-22	23-DEC-22	two days
STRAWBERRY SWIRL PASTRY	460	two days	21-DEC-22	23-DEC-22	two days
CHOCOLATE CAKE	1000	three days	21-DEC-22	24-DEC-22	three days
BUTTERSCOTCH CAKE	2000	four days	21-DEC-22	25-DEC-22	four days
CHOCO VANILA CAKE	450	four days	21-DEC-22	25-DEC-22	four days
CHOCO COFFEE CAKE	1100	five days	21-DEC-22	26-DEC-22	five days
RED VELVET PREMIUM CAKE	2000	five days	21-DEC-22	26-DEC-22	five days
COFFEE CAKE	600	six days	21-DEC-22	27-DEC-22	six days
CHERRY CAKE	1500	six days	21-DEC-22	27-DEC-22	six days
SUGAR DANISH BISCUITS	150	seven days	21-DEC-22	28-DEC-22	seven days
MEXICAN BURGER	250	three days	21-DEC-22	24-DEC-22	three days
MEXICAN SUB SANDWICH	300	three days	21-DEC-22	24-DEC-22	three days
DRY CAKE	500	eight days	21-DEC-22	29-DEC-22	eight days
CHOCOLATE COOKIES	450	eight days	21-DEC-22	29-DEC-22	eight days
SHINGARA	50	one days	21-DEC-22	22-DEC-22	one days

Outer join:

2. select item.item_name, item.i_price,
   item.customer_id,Customer.customer_id, customer.c_name
   from item,customer
   where item.customer_id(+)=Customer.customer_id;

```
select item.item_name, item.i_price, item.customer_id,Customer.customer_id, customer.c_name
from item,customer
where item.customer_id(+)=Customer.customer_id;
```

Results Explain Describe Saved SQL History

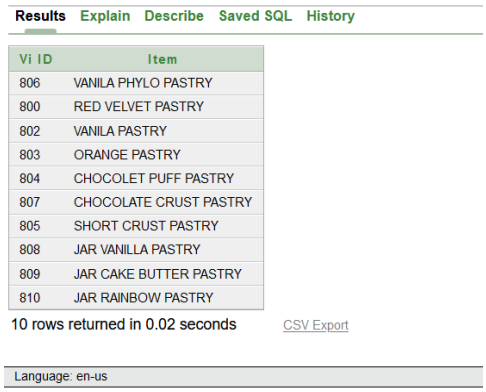
CUSTOMER_ID	C_PHONENUMBER1	C_PHONENUMBER2	C_NAME	C_EMAILADDRESS1	C_EMAILADDRESS2	CUSTOMERADDRESS	PAYMENT_ID
700	123789456	456789321	SANJIB	sanjib3366161@gmail.com	sanjib123@gmail.com	BANANI	503
701	122714456	456781321	PRONOY	pronoy61@gmail.com	pronoy3@gmail.com	UTTARA	501
702	122714456	456781321	BABITA	babita99@gmail.com	babita@gmail.com	MIRPUR	505
703	112734459	450731301	BONHI	bonhi19@gmail.com	bonhi@gmail.com	NIKUNJA	502
704	102715056	459781021	PRATAP	pratap6189@gmail.com	pratap30@gmail.com	BADDA	509
705	990126756	5567801321	ABRAR	muhtasib01@gmail.com	muhtasib3@gmail.com	UTTARA	506
706	770126756	9567801321	Tanmoy	tanmoy01@gmail.com	tanmoy3@gmail.com	BADDA	507
707	710120756	5567120131	PEYASH	peyash01@gmail.com	peyash3@gmail.com	NIKUNJA	508
708	330126756	5676618921	SHOWRAV	showrav91@gmail.com	showrav30@gmail.com	UTTARA	510
709	990185376	7919451321	SHATHI	shathi97@gmail.com	shathi87@gmail.com	KURIL	511
710	173782756	24567801321	GOUROB	gourob9591@gmail.com	gourob3025@gmail.com	BADDA	512

View:

Q1 : Create a view called simple_view based on the item_id and item_name from the Item table where item id should be in between 810.

Answer: create view simple_view as select item_id as "Vi ID",Item_name as "item"

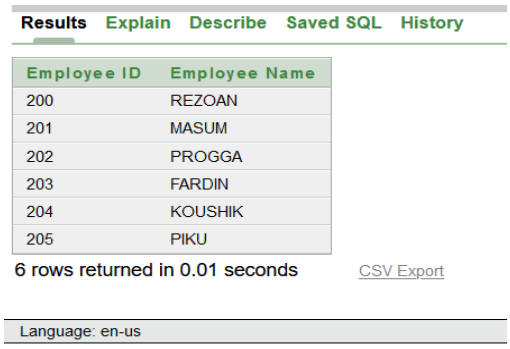
from item where item_id between 800 and 810;



Q2 : Create a view called normal_view based on the E_id and E_name from the Employee table where E_id should not be exceed 205.

Answer: create view normal_view as select E_id as "Employee ID",E_name as "Employee name"

from employee where E_id between 200 and 205;



Results Explain Describe Saved SQL History

Employee ID	Employee Name
200	REZOAN
201	MASUM
202	PROGGA
203	FARDIN
204	KOUSHIK
205	PIKU

6 rows returned in 0.01 seconds CSV Export

Language: en-us

Relational Algebra

1. Find the Amount Number of product which was sold on ‘22-Dec-2022'.

Ans. Π Amount Number(σ payment_date=”22-Dec-2022"(payment))

2. Find the E_name whose shop_id is ‘110’.

Ans. Π E_name(σ shop_id=110 (employee $\bowtie$ shop))

3. Find the E_id whose salary is geater than ‘18000’.

Ans. Π E_id(σ E_salary > 18000(employee))

4. Find the E_phonenumber1 and E_phonenumber2 whose name ’masum’.

Ans. Π E_phonenumber1,E_phonenumber2(σ E_name=”masum”(employee))

5. Find the Amount Number which payment_id is ‘510’.

Ans. Π Amount Number(σ payment_id=510(payment))

Conclusion:

Here is the end of our project. We created all data table successfully and all information can be accessible by query writing.

Acknowledgement:

We are very grateful to our course teacher Juena Ahmed Noshin ma’am for teaching and explaining everything to us so beautifully.