American International University- Bangladesh

Advance Database Management System
Topic: Retail Management System
Section: C
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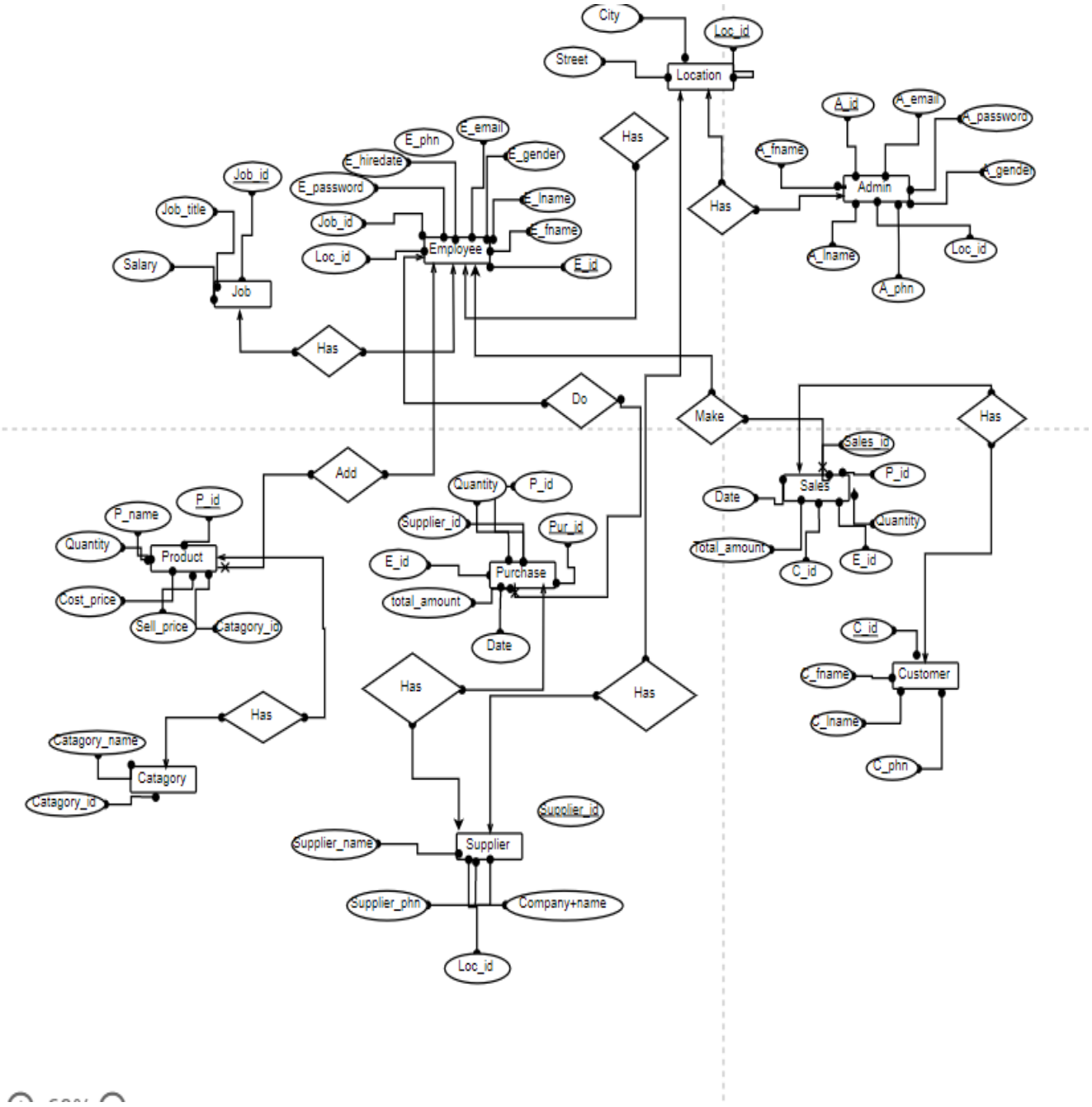
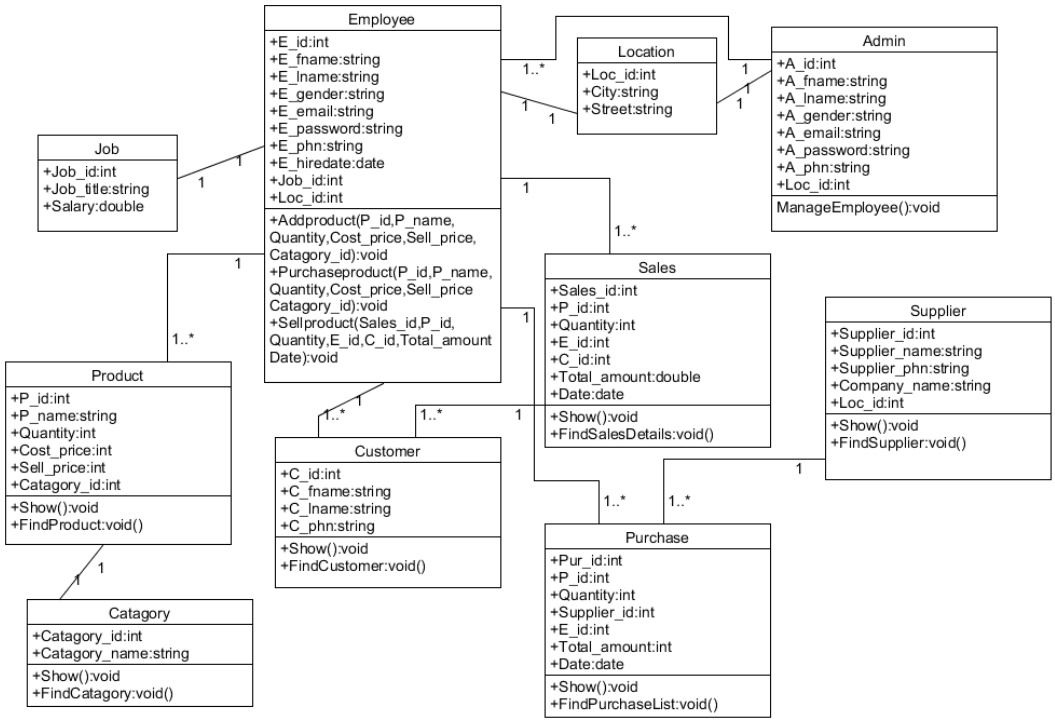
System Summary:

An online retail management system is a platform that combines several modules to aid in the day-to-day operation of a retail store or chain, such as managing and buying inventory, checking out customers, scheduling employee shifts, keeping track of finances, etc. We include three types of user such as Admin, Manager and Cashier. They have to login in this system. Admin can manage other employee details. Manager can manage inventory. If he wants he would be able to sell products. He also purchases product from suppliers whenever he needs. Here, also customer and supplier information are stored but they are not directly user in our system. It makes easier to both suppliers and consumers to sell and get products form one place. It can be a best solution to suppliers to sell products from one place. From this website, managing products and checking product stock reports and product related information's is easier. It makes shopping a pleasurable experience and ensures the customers leave the store with a smile. This project will become a hub for small retailers to sell daily necessary products from one place and will help consumers to get whatever they need.

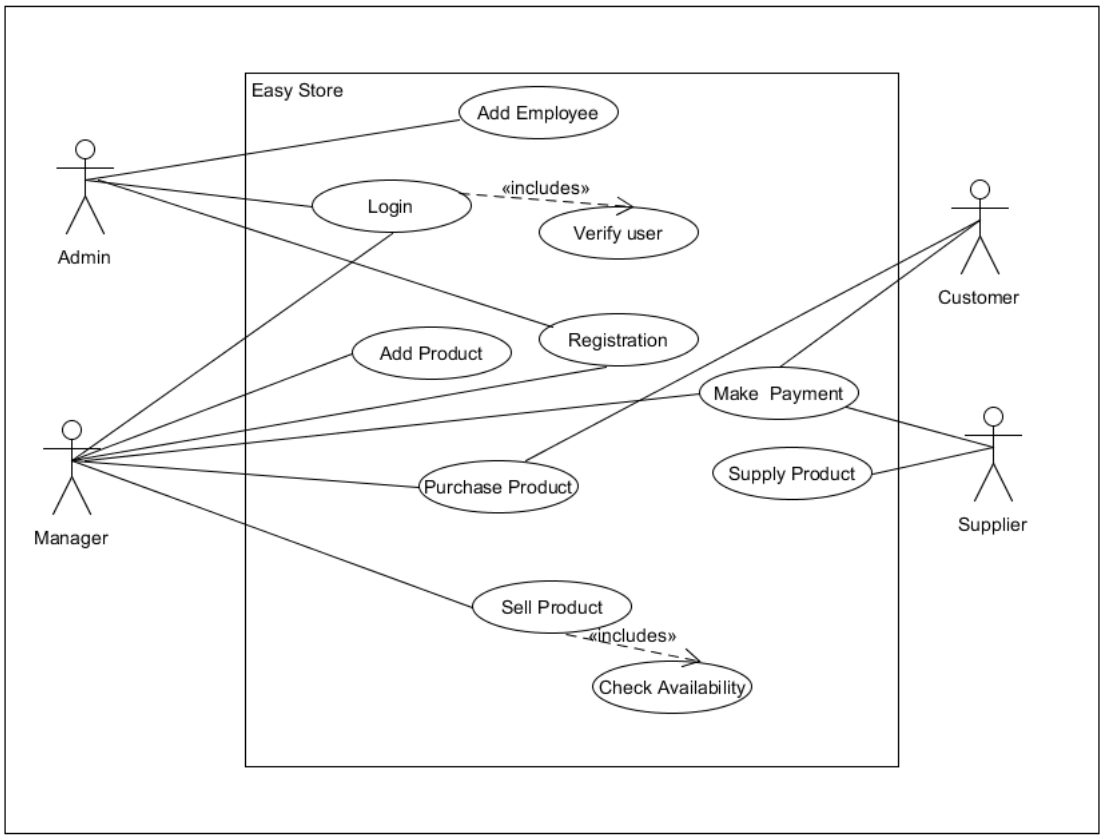
ERD diagram:


City
Loc_id
Street
Location
A_id
A_email
A_password
A_fname
Admin
A_gender
A_lname
Loc_id
A_phn
Has
Has
E_email
E_phn
E_hiredate
E_gender
Job_id
E_password
E_lname
Job_id
E_fname
Job_title
Loc_id
Employee
E_id
Salary
Job
Has
Do
Make
Has
Add
Sales_id
P_id
Sales
Date
Quantity
P_id
P_name
P_id
Supplier_id
Pur_id
Quantity
Product
E_id
Purchase
Total_amount
C_id
E_id
Cost_price
Sell_price
Catagory_id
total_amount
Date
C_id
Has
Has
C_fname
Customer
Has
C_lname
Catagory_name
Catagory
C_phn
Catagory_id
Supplier_id
Supplier_name
Supplier
Supplier_phn
Company+name
Loc_id

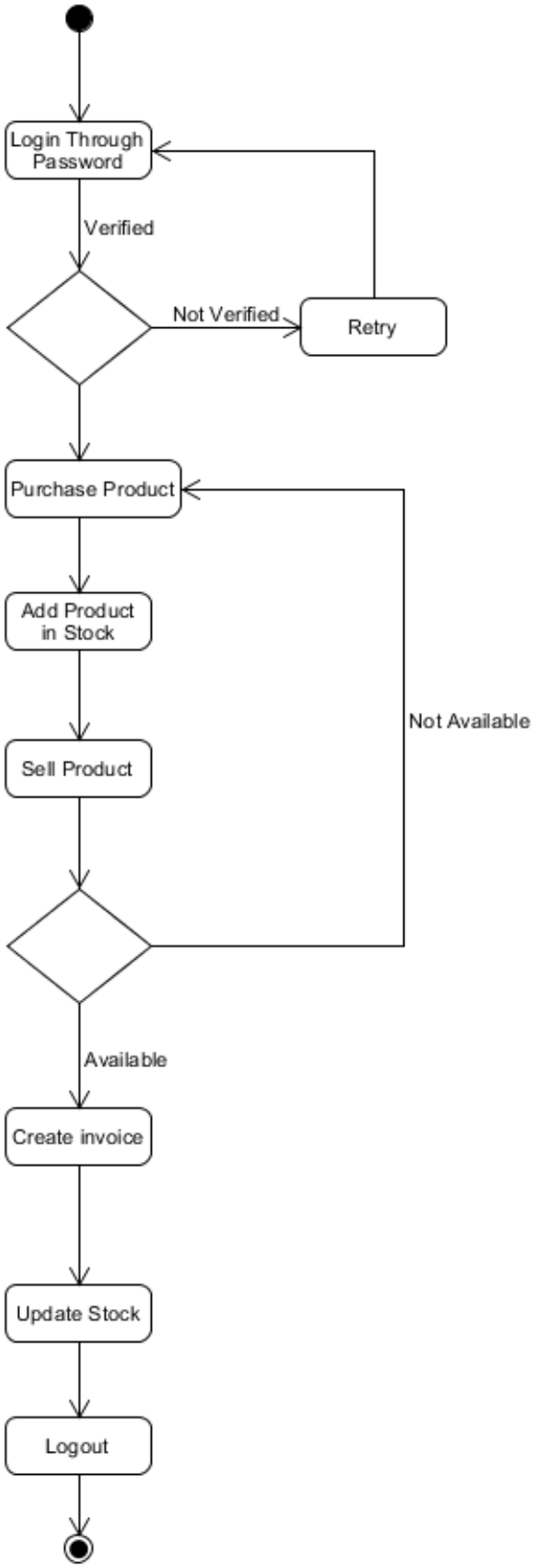
Class diagram:



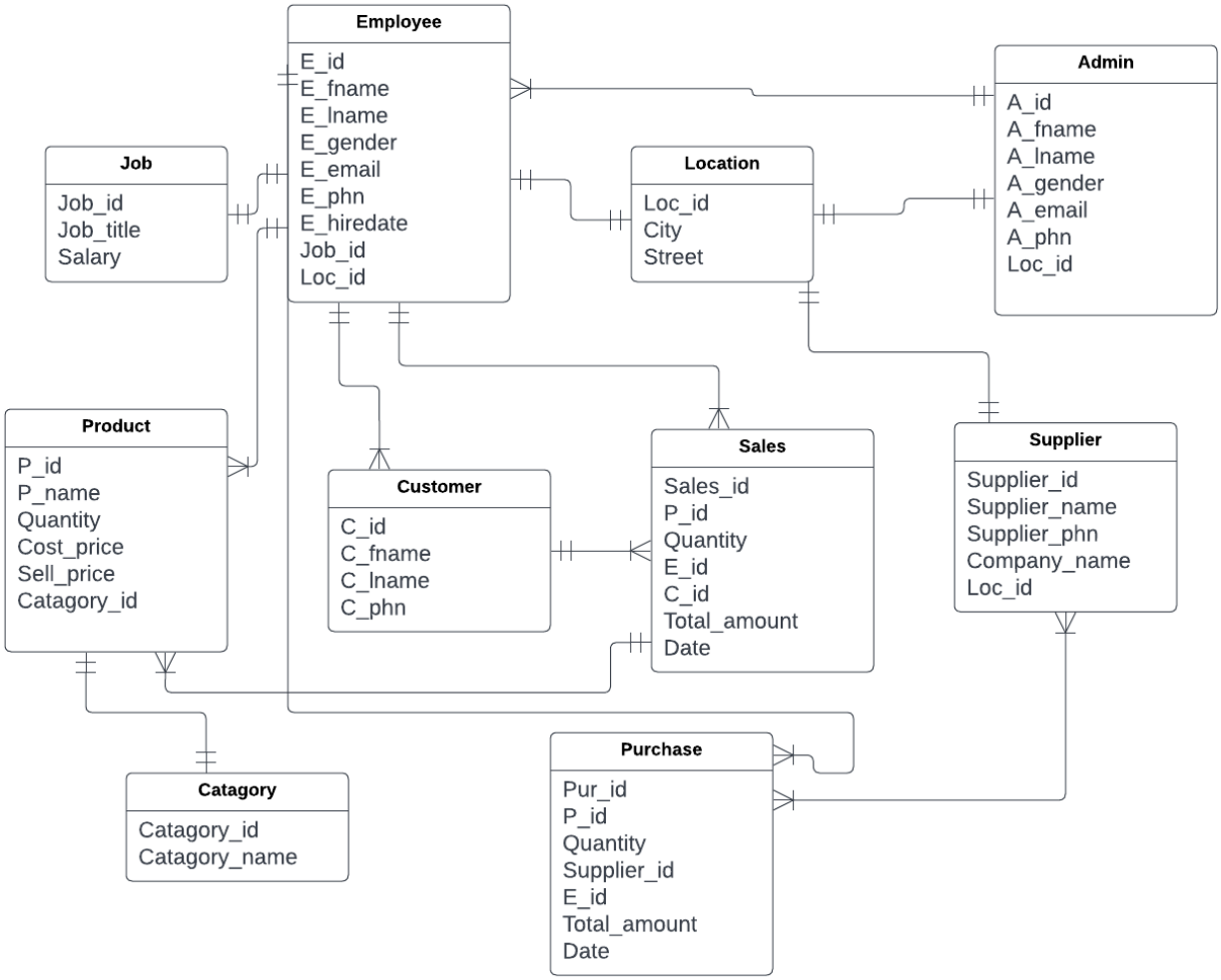
Use Case Diagram:



Activity Diagram:



Schema Diagram:



Creating Table:

1. Location

```
CREATE TABLE Location(
  Loc_id number not null,
  City varchar(20) not null,
  Street   varchar(20) not null,
   PRIMARY KEY (Loc_id)
);
```

Column Name	Data Type	Nullable	Default	Primary Key
LOC_ID	NUMBER	No	-	1
CITY	VARCHAR2(20)	No	-	-
STREET	VARCHAR2(20)	No	-	-
				1 - 3

2. Job

```
CREATE TABLE Job(
  Job_id number not null,
  Job_title varchar(20) not null,
  Salary   varchar(20) not null,
   PRIMARY KEY (Job_id)

);
```

Column Name	Data Type	Nullable	Default	Primary Key
JOB_ID	NUMBER	No	-	1
JOB_TITLE	VARCHAR2(20)	No	-	-
SALARY	VARCHAR2(20)	No	-	-
				1 - 3

3. Employee

```
CREATE TABLE Employee(
  E_id number not null,
E_fname varchar(20) not null,
E_lname varchar(20) not null,
E_gender varchar(20) not null,
E_email varchar(20) not null unique,
E_password varchar(20) not null,
E_phn varchar(11) not null,
E_hiredate varchar(20) not null,
  Job_id number not null,
```

Loc_id number not null,
  PRIMARY KEY (E_id),
FOREIGN KEY(Job_id) REFERENCES Job(Job_id),
FOREIGN KEY(Loc_id) REFERENCES Location(Loc_id)

);

Column Name	Data Type	Nullable	Default	Primary Key
E_ID	NUMBER	No	-	1
E_FNAME	VARCHAR2(20)	No	-	-
E_LNAME	VARCHAR2(20)	No	-	-
E_GENDER	VARCHAR2(20)	No	-	-
E_EMAIL	VARCHAR2(20)	No	-	-
E_PASSWORD	VARCHAR2(20)	No	-	-
E_PHN	VARCHAR2(11)	No	-	-
E_HIREDATE	DATE	No	-	-
JOB_ID	NUMBER	No	-	-
LOC_ID	NUMBER	No	-	-
				1 - 10

4. Admin

CREATE TABLE Admin(
  A_id number not null,
A_fname varchar(20) not null,
A_lname varchar(20) not null,
Age number not null,–
A_gender varchar(20) not null,
A_email varchar(20) not null unique,
A_password varchar(20) not null,
A_phn varchar(11) not null,

Loc_id number not null,
  PRIMARY KEY (A_id),
FOREIGN KEY(Loc_id) REFERENCES Location(Loc_id)

);

Column Name	Data Type	Nullable	Default	Primary Key
A_ID	NUMBER	No	-	1
A_FNAME	VARCHAR2(20)	No	-	-
A_LNAME	VARCHAR2(20)	No	-	-
A_GENDER	VARCHAR2(20)	No	-	-
A_EMAIL	VARCHAR2(100)	No	-	-
A_PASSWORD	VARCHAR2(20)	No	-	-
A_PHN	VARCHAR2(11)	No	-	-
LOC_ID	NUMBER	No	-	-
AGE	NUMBER	No	-	-
				1 - 9

5. Customer:

```
CREATE TABLE Customer(
  C_id number not null,
C_fname varchar(20) not null,
C_lname varchar(20) not null,
C_phn varchar(11) not null,


  PRIMARY KEY (C_id)
);
```

Column Name	Data Type	Nullable	Default	Primary Key
C_ID	NUMBER	No	-	1
C_FNAME	VARCHAR2(20)	No	-	-
C_LNAME	VARCHAR2(20)	No	-	-
C_PHN	VARCHAR2(11)	No	-	-
				1 - 4

6. Supplier:

```
CREATE TABLE Supplier(
  Supplier_id number not null,
Supplier_name varchar(20) not null,
Supplier_phn varchar(11) not null,
Company_name varchar(20) not null,
Loc_id number not null,


  PRIMARY KEY (Supplier_id),
FOREIGN KEY(Loc_id) REFERENCES Location(Loc_id)
);
```

Column Name	Data Type	Nullable	Default	Primary Key
SUPPLIER_ID	NUMBER	No	-	1
SUPPLIER_NAME	VARCHAR2(20)	No	-	-
SUPPLIER_PHN	VARCHAR2(11)	No	-	-
COMPANY_NAME	VARCHAR2(20)	No	-	-
LOC_ID	NUMBER	No	-	-
				1 - 5

7. Category:

```
CREATE TABLE Catagory(
Catagory_id number not null,
Catagory_name varchar(20) not null,


  PRIMARY KEY (Catagory_id)

);
```

Column Name	Data Type	Nullable	Default	Primary Key
CATAGORY_ID	NUMBER	No	-	1
CATAGORY_NAME	VARCHAR2(20)	No	-	-
				1 - 2

8. Product:

```
CREATE TABLE Product(
P_id number not null,
P_name varchar(20) not null,
Quantity number not null,
Cost_price number not null,
Sell_price number not null,
Catagory_id number not null,


  PRIMARY KEY (P_id),
FOREIGN KEY(Catagory_id) REFERENCES Catagory(Catagory_id)

);
```

Column Name	Data Type	Nullable	Default	Primary Key
P_ID	NUMBER	No	-	1
P_NAME	VARCHAR2(20)	No	-	-
QUANTITY	NUMBER	No	-	-
COST_PRICE	NUMBER	No	-	-
SELL_PRICE	NUMBER	No	-	-
CATAGORY_ID	NUMBER	No	-	-
				1 - 6

9. Purchase:

```
CREATE TABLE Purchase(
Pur_id number not null,
P_id number not null,
Quantity number not null,
Supplier_id number not null,
E_id number not null,
Total_amount number not null,


  PRIMARY KEY (Pur_id),
FOREIGN KEY(P_id) REFERENCES Product(P_id),
FOREIGN KEY(Supplier_id) REFERENCES Supplier(Supplier_id),
FOREIGN KEY(E_id) REFERENCES Employee(E_id)
);
```

Column Name	Data Type	Nullable	Default	Primary Key
PUR_ID	NUMBER	No	-	1
P_ID	NUMBER	No	-	-
QUANTITY	NUMBER	No	-	-
SUPPLIER_ID	NUMBER	No	-	-
E_ID	NUMBER	No	-	-
TOTAL_AMOUNT	NUMBER	No	-	-
				1 - 6

10. Sales:

```
CREATE TABLE Sales(
Sales_id number not null,
P_id number not null,
Quantity number not null,
E_id number not null,
C_id number not null,
Total_amount number not null,


FOREIGN KEY(P_id) REFERENCES Product(P_id),
FOREIGN KEY(C_id) REFERENCES Customer(C_id),
FOREIGN KEY(E_id) REFERENCES Employee(E_id)
);
```

Table Data:

1. Admin:

EDIT	A_ID	A_FNAME	A_LNAME	A_GENDER	A_EMAIL	A_PASSWORD	A_PHN	LOC_ID	AGE
	407	Fahim	Haldar	Male	fahim@gmail.com	123456Tr	01712343212	102	32
	408	Rhamat	Ullah	Male	rahmat@gmail.com	2345678Derr	01814567823	103	43
	410	Rahat	Alam	Male	rahat@gmail.com	Serty45678	01913245336	110	22
	403	Farhana	Akter	Female	fariyaprity7@gmail.com	1234Wethdj	01913225336	105	21
	404	Fariya	Sultana	Female	prity.fariya.42889@gmail.com	We123456789	01744474123	106	23
	406	Forhad	Uddin	Male	forhad@gmail.com	Er12345678	01612345432	101	32
								row(s) 1 - 6 of 6	

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2. Category:

EDIT	CATAGORY_ID	CATAGORY_NAME
	701	Skin Care
	703	Jwelery
	700	Grocery
	702	Decor
	704	Bedding
		row(s) 1 - 5 of 5

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3. Customer:

EDIT	C_ID	C_FNAME	C_LNAME	C_PHN
	501	Nabila	Akter	01614354345
	502	Hasibur	Rahman	01514565434
	503	Azad	Ahmed	01714534234
	504	Muktar	Hossain	01915674534
	500	Rufayda	Hauqe	01513454323
			row(s) 1 - 5 of 5	

4. Employee:

EDIT	E_ID	E_FNAME	E_LNAME	E_GENDER	E_EMAIL	E_PASSWORD	E_PHN	E_HIREDATE	JOB_ID	LOC_ID
	301	Martin	Nikolo	Male	martin@gmail.com	Er45256262gdgd	01615676543	28-SEP-04	204	106
	302	Farid	Hossen	Male	farid@gmail.com	1234543Wee	01912321232	17-DEC-80	201	101
	303	Mohib	Hossen	Male	mohib@gmail.com	123weRggyyyy	01817902543	17-DEC-00	202	102
	304	Nobir	Hossen	Male	nobir@gmail.com	123wfRggyyyy	01816902543	14-DEC-02	203	103
	305	Khuku	Moni	Female	moni@gmail.com	123dfRggyyyy	01516902543	14-JUL-02	204	104
									row(s) 1 - 5 of 5	

5. Job:

EDIT	JOB_ID	JOB_TITLE	SALARY
	200	Cashier	30000
	201	Manager	40000
	203	Manager	30000
	202	Manager	35000
	204	Cashier	20000
		row(s) 1 - 5 of 5	

6. Location:

EDIT	LOC_ID	CITY	STREET
	100	Mohakhali	Chowrasta
	101	Tongi	Hazibari
	102	Tongi	Hazibari
	110	Dhaka	Arambag
	103	Tongi	Hazibari
	104	Tongi	Hazibari
	105	Tongi	Hazibari
	106	Airport	Amtola

row(s) 1 - 8 of 8

7. Product:

EDIT	P_ID	P_NAME	QUANTITY	COST_PRICE	SELL_PRICE	CATAGORY_ID
	800	Bread	25	80	120	700
	801	Soup	120	31	37	700
	802	Foundation	12	450	600	701
	803	Fan	32	220	250	702
	804	Cheese	34	140	180	700

row(s) 1 - 5 of 5

8. Purchase:

EDIT	PUR_ID	P_ID	QUANTITY	SUPPLIER_ID	E_ID	TOTAL_AMOUNT
	905	801	120	602	301	3720
	906	802	12	604	302	5400
	903	800	25	602	301	9600
	907	803	32	600	304	7040
	908	804	34	602	305	4760

row(s) 1 - 5 of 5

9. Sales:

EDIT	SALES_ID	P_ID	QUANTITY	E_ID	C_ID	TOTAL_AMOUNT
	1000	800	4	301	504	480
	1001	801	2	302	503	74
	1002	802	1	303	502	600
	1003	803	4	304	501	1000
	1004	804	3	305	500	540

row(s) 1 - 5 of 5

10.Supplier:

EDIT	SUPPLIER_ID	SUPPLIER_NAME	SUPPLIER_PHN	COMPANY_NAME	LOC_ID
	602	Mila	01517654342	Fresh Mart	105
	600	Mahmud	01315434576	ABC	102
	601	Mostafiz	01316545341	Dreamy	104
	604	Jamshed	01913423242	Skin Lab	105
	603	Jahangir	01612345643	Cartiar	110

row(s) 1 - 5 of 5

Task:

1. Find all employees with their location and job details.
Ans: select e.*,j.Job_title,j.Salary,l.City,l.Street from employee e,job j,location l where e.Job_id=j.Job_id and e.Loc_id=l.Loc_id;

2. Find those employees and suppliers who live in same location.
Ans: select employee.e_fname,Supplier.supplier_name,location.city,location.street from employee,location,Supplier where employee.Loc_id=Location.Loc_id and Supplier.Loc_id=Location.Loc_id;

3. Find those products information and catagory information which sold the most.
Ans: select p.*,c.* from product p, catagory c where c.catagory_id=p.catagory_id and p_id in(select p_id from sales group by p_id having max(quantity)=(select max(max(quantity)) from sales group by p_id));

4. Find out the second highest price's product details.
Ans: select p.* from product p where p.sell_price in(select max(sell_price) from product where sell_price<(select max(sell_price) from product));

5. Find the employees who purchase products most.
Ans: select e.* from employee e where e_id=(select E_id from purchase group by E_id having max(quantity) in(select max(max(quantity)) from purchase group by E_id));

6. Find those employees whose city same as Farid and Salary same as Mohib.
Ans: select e.*,j.*,l.* from employee e,job j,location l where e.job_id=j.job_id and e.loc_id=l.loc_id and l.city=(select l.city from employee e,location l where e.loc_id=l.loc_id and e.e_fname='Farid') and j.job_title=(select j.job_title from employee e,job j where e.job_id=j.job_id and e.e_fname='Mohib')

7.Find most junior employee's salary.
Ans: select j.salary from employee e,job j where e.job_id=j.job_id and e.e_hiredate=(select min(e_hiredate) from employee)

8. Find those products with catagory which have less cost price than Bread.
Ans: select p.* ,c.* from product p,catagory c where p.catagory_id=c.catagory_id and cost_price<(select cost_price from product where p_name='Bread');

9. Find those maximum employees who join the same time.
Ans: select e.* from employee e where e_hiredate in(select e.e_hiredate from employee e group by e_hiredate having count(*)=(select max(count(*)) from employee group by e_hiredate));

10. Find the product which has maximum profit.
Ans: select product.* from product where sell_price-cost_price=(select max(sell_price-cost_price) from product);

User Interface: