



# **19ELC312 – Database System and Programming**

**Group Project**

**Group Number: 3**

**Title: Stock Management in Hypermarket**

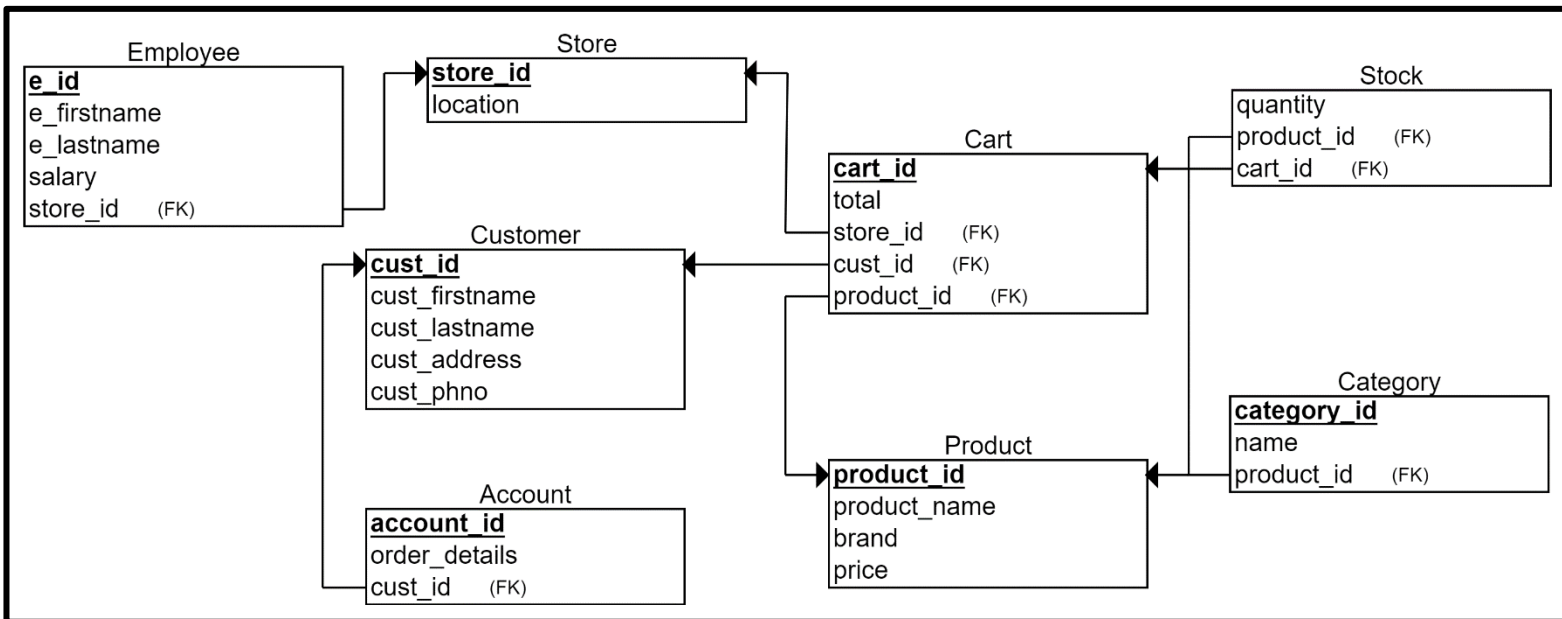
**Group Members:**

**ABISHEK. M – CB.EN.U4ELC20003**

**HARISH. S – CB.EN.U4ELC20022**

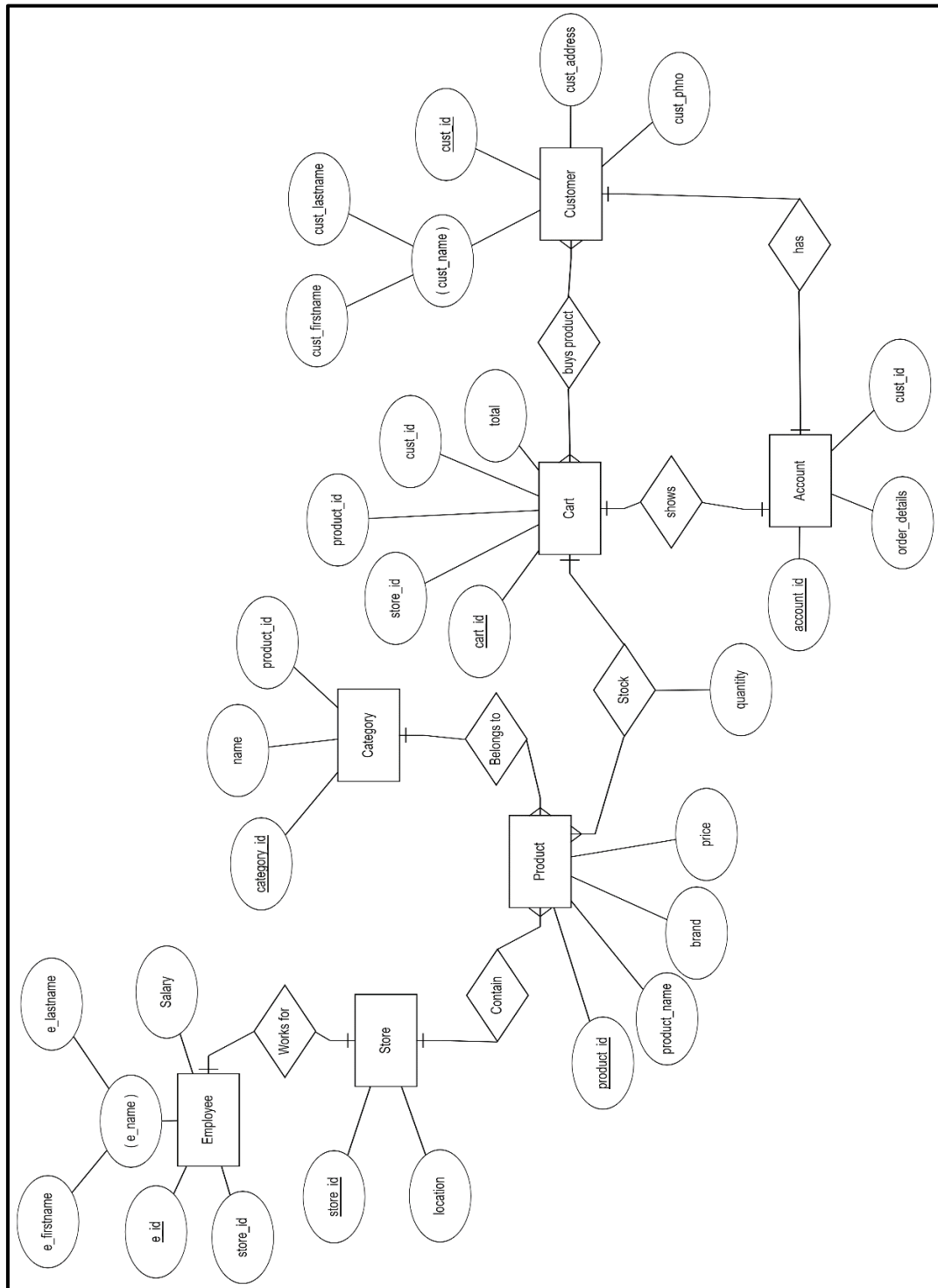
**KURALANBU. S – CB.EN.U4ELC20033**

## Relational Schema:



- Employee (e\_id, e\_firstname, e\_lastname, salary, store\_id(fk))
- Store (store\_id, location)
- Cart (cart\_id, total, store\_id(fk), cust\_id(fk), product\_id(fk))
- Customer (cust\_id, cust\_firstname, cust\_lastname, cust\_address, cust\_phno)
- Account (account\_id, order\_details, cust\_id(fk))
- Product (product\_id, product\_name, brand, price)
- Stock (quantity, product\_id(fk), cart\_id(fk))
- Category (category\_id, name, product\_id(fk))

## Entity Relationship Diagram:



## SQL:

### Creating the Tables

```
create table Customer(  
    cust_id int,  
    cust_firstname varchar(20),  
    cust_lastname varchar(20),  
    cust_address varchar(20),  
    cust_phno int,  
    primary key(cust_id)  
);  
  
desc Customer;
```

Table created.

TABLE CUSTOMER

Column	Null?	Type
CUST_ID	NOT NULL	NUMBER
CUST_FIRSTNAME	-	VARCHAR2(20)
CUST_LASTNAME	-	VARCHAR2(20)
CUST_ADDRESS	-	VARCHAR2(20)
CUST_PHNO	-	NUMBER

```
create table Store(  
    store_id int,  
    location varchar(20),  
    primary key(store_id)  
);  
  
desc Store;
```

Table created.

TABLE STORE

Column	Null?	Type
STORE_ID	NOT NULL	NUMBER
LOCATION	-	VARCHAR2(20)

```
create table Employee(
  e_id int,
  e_firstname varchar(20),
  e_lastname varchar(20),
  salary int,
  store_id int,
  primary key(e_id),
  foreign key(store_id) references Store(store_id)
);

desc Employee;
```

Table created.

TABLE EMPLOYEE

Column	Null?	Type
E_ID	NOT NULL	NUMBER
E_FIRSTNAME	-	VARCHAR2(20)
E_LASTNAME	-	VARCHAR2(20)
SALARY	-	NUMBER
STORE_ID	-	NUMBER

```
create table Product(
  product_id int,
  product_name varchar(20),
  brand varchar(20),
  price int,
  primary key(product_id)
);

desc Product;
```

Table created.

TABLE PRODUCT

Column	Null?	Type
PRODUCT_ID	NOT NULL	NUMBER
PRODUCT_NAME	-	VARCHAR2(20)
BRAND	-	VARCHAR2(20)
PRICE	-	NUMBER

```

create table Category(
    category_id int,
    product_id int,
    name varchar(20),
    foreign key(product_id) references Product(product_id)
);

desc Category;

```

Table created.

TABLE CATEGORY

Column	Null?	Type
CATEGORY_ID	-	NUMBER
PRODUCT_ID	-	NUMBER
NAME	-	VARCHAR2(20)

```

create table Cart(
    cart_id int,
    cust_id int,
    product_id int,
    store_id int,
    total int,
    foreign key(cust_id) references Customer(cust_id),
    foreign key(product_id) references Product(product_id),
    foreign key(store_id) references Store(store_id),
    primary key(cart_id)
);

desc Cart;

```

Table created.

TABLE CART

Column	Null?	Type
CART_ID	NOT NULL	NUMBER
CUST_ID	-	NUMBER
PRODUCT_ID	-	NUMBER
STORE_ID	-	NUMBER
TOTAL	-	NUMBER

```

create table Account(
    account_id int,
    order_details int,
    cust_id int,
    foreign key(cust_id) references Customer(cust_id)
);

desc Account;

```

Table created.

TABLE ACCOUNT

Column	Null?	Type
ACCOUNT_ID	-	NUMBER
ORDER_DETAILS	-	NUMBER
CUST_ID	-	NUMBER

```

create table Stock(
    cart_id int,
    product_id int,
    quantity int,
    foreign key(cart_id) references Cart(cart_id),
    foreign key(product_id) references Product(product_id)
);

desc Stock;

```

Table created.

TABLE STOCK

Column	Null?	Type
CART_ID	-	NUMBER
PRODUCT_ID	-	NUMBER
QUANTITY	-	NUMBER

### Inserting values in Tables:

```
insert into Customer values (11, 'Kuralanbu', 'Selvaraj', 'Madurai', 8804351228);
insert into Customer values (12, 'Balashivaram', 'Ganesan', 'Salem', 9713567543);
insert into Customer values (13, 'Mouleshwar', 'Saravanan', 'Madurai', 9654765822);
insert into Customer values (14, 'Ajay', 'Kumar', 'Salem', 9788076521);
insert into Customer values (15, 'Naren', 'Mouria', 'Salem', 7689901234);

select *from Customer;
```

CUST_ID	CUST_FIRSTNAME	CUST_LASTNAME	CUST_ADDRESS	CUST_PHNO
11	Kuralanbu	Selvaraj	Madurai	8804351228
12	Balashivaram	Ganesan	Salem	9713567543
13	Mouleshwar	Saravanan	Madurai	9654765822
14	Ajay	Kumar	Salem	9788076521
15	Naren	Mouria	Salem	7689901234

```
insert into Store values (1, 'Salem');
insert into Store values (2, 'Madurai');

select *from Store;
```

STORE_ID	LOCATION
1	Salem
2	Madurai



```

insert into Employee values (3001, 'Vimal', 'Dharshan', 45000, 1);
insert into Employee values (3002, 'Mohamed', 'Aathil', 35000, 2);
insert into Employee values (3003, 'Arjun', 'Nair', 50000, 1);
insert into Employee values (3004, 'Sai', 'Krishna', 30000, 2);
insert into Employee values (3005, 'Adarsh', 'Ravikumar', 55000, 1);

select *from Employee;

```

E_ID	E_FIRSTNAME	E_LASTNAME	SALARY	STORE_ID
3001	Vimal	Dharshan	45000	1
3002	Mohamed	Aathil	35000	2
3003	Arjun	Nair	50000	1
3004	Sai	Krishna	30000	2
3005	Adarsh	Ravikumar	55000	1

```

insert into Product values (435, 'Air Conditioner', 'Voltas', 40000);
insert into Product values (512, 'MacBook Air', 'Apple', 99000);
insert into Product values (765, 'Badminton Racket', 'Yonex', 1999);
insert into Product values (842, 'Washing Machine', 'LG', 25000);
insert into Product values (987, 'Refrigerator', 'Samsung', 35000);

select *from Product;

```

PRODUCT_ID	PRODUCT_NAME	BRAND	PRICE
435	Air Conditioner	Voltas	40000
512	MacBook Air	Apple	99000
765	Badminton Racket	Yonex	1999
842	Washing Machine	LG	25000
987	Refrigerator	Samsung	35000

```

insert into Category values (123, 512, 'Electronic gadget');
insert into Category values (154, 765, 'Sports');
insert into Category values (176, 435, 'Appliances');
insert into Category values (176, 842, 'Appliances');
insert into Category values (176, 987, 'Appliances');

select *from Category;

```

CATEGORY_ID	PRODUCT_ID	NAME
123	512	Electronic gadget
154	765	Sports
176	435	Appliances
176	842	Appliances
176	987	Appliances

```

insert into Cart values (102,13,512,1,99000);
insert into Cart values (103,15,987,2,35000);
insert into Cart values (104,11,435,1,40000);
insert into Cart values (105,14,765,1,1999);
insert into Cart values (106,12,842,2,25000);

select *from Cart;

```

CART_ID	CUST_ID	PRODUCT_ID	STORE_ID	TOTAL
102	13	512	1	99000
103	15	987	2	35000
104	11	435	1	40000
105	14	765	1	1999
106	12	842	2	25000

```
insert into Account values (14567,100065,12);
insert into Account values (15324,100071,13);
insert into Account values (12321,100082,14);
insert into Account values (13388,100088,15);
insert into Account values (17899,100094,11);

select *from Account;
```

ACCOUNT_ID	ORDER_DETAILS	CUST_ID
14567	100065	12
15324	100071	13
12321	100082	14
13388	100088	15
17899	100094	11

```
insert into Stock values (102,512,12);
insert into Stock values (103,987,13);
insert into Stock values (104,435,14);
insert into Stock values (105,765,15);
insert into Stock values (106,842,11);

select *from Stock;
```

CART_ID	PRODUCT_ID	QUANTITY
102	512	12
103	987	13
104	435	14
105	765	15
106	842	11

### Sample Queries:

```
SELECT e_firstname, e_lastname, salary FROM Employee;  
-- select the first name, last name and salary of all Employees
```

E_FIRSTNAME	E_LASTNAME	SALARY
Vimal	Dharshan	45000
Mohamed	Aathil	35000
Arjun	Nair	50000
Sai	Krishna	30000
Adarsh	Ravikumar	55000

```
SELECT cust_firstname, cust_lastname, cust_phno FROM Customer;  
-- select the first name, last name and phone number of all Customers
```

CUST_FIRSTNAME	CUST_LASTNAME	CUST_PHNO
Kuralanbu	Selvaraj	8804351228
Balashivaram	Ganesan	9713567543
Mouleshwar	Saravanan	9654765822
Ajay	Kumar	9788076521
Naren	Mouria	7689901234

```
SELECT store_id, location FROM Store;  
-- select all store id and locations from Stores
```

STORE_ID	LOCATION
1	Salem
2	Madurai

```
SELECT product_name, price FROM Product;
-- select all product names and prices from the Products
```

PRODUCT_NAME	PRICE
Air Conditioner	40000
MacBook Air	99000
Badminton Racket	1999
Washing Machine	25000
Refrigerator	35000

```
SELECT name, product_name FROM Category c
INNER JOIN Product p ON c.product_id = p.product_id;
-- select all names from the category and join with all product names by joining product id(key)
```

NAME	PRODUCT_NAME
Appliances	Air Conditioner
Electronic gadget	MacBook Air
Sports	Badminton Racket
Appliances	Washing Machine
Appliances	Refrigerator

```
SELECT cart_id, total FROM Cart;
-- select cart id and total amount from all the Cart details
```

CART_ID	TOTAL
102	99000
103	35000
104	40000
105	1999
106	25000

```
SELECT account_id, cust_firstname, cust_lastname FROM Account a
INNER JOIN Customer c ON a.cust_id = c.cust_id;
--select all account id from Accounts and join with
--all first and last names from all Customers by joining cust_id(key)
```

ACCOUNT_ID	CUST_FIRSTNAME	CUST_LASTNAME
17899	Kuralanbu	Selvaraj
14567	Balashivaram	Ganesan
15324	Mouleshwar	Saravanan
12321	Ajay	Kumar
13388	Naren	Mouria

```
SELECT product_name, quantity FROM Stock s
INNER JOIN Product p ON s.product_id = p.product_id;
-- select all product names from Product and join with
-- all quantities from Stock respectively by joining product_id(key)
```

PRODUCT_NAME	QUANTITY
Air Conditioner	14
MacBook Air	12
Badminton Racket	15
Washing Machine	11
Refrigerator	13

```
SELECT e_firstname, e_lastname FROM Employee WHERE store_id = 1;  
-- select the first name and last name of Employee who works in store id 1
```

E_FIRSTNAME	E_LASTNAME
Vimal	Dharshan
Arjun	Nair
Adarsh	Ravikumar

```
SELECT cust_phno FROM Customer WHERE cust_id = 11;  
-- select the customer phone number from Customer whose customer id is 1
```

CUST_PHNO
8804351228

```
SELECT location FROM Store WHERE store_id = 2;  
-- select the location from Store whose store id is 2
```

LOCATION
Madurai

```
SELECT price FROM Product WHERE product_id = 987;  
-- select the price from Product whose product id is 987
```

PRICE
35000

```
SELECT name FROM Category WHERE product_id = 512;  
-- select the name from Category whose product id is 512
```

NAME
Electronic gadget

```
SELECT total FROM Cart WHERE cart_id = 102;  
-- select the total amount from Cart whose cart id is 102
```

TOTAL
99000

```
SELECT cust_firstname, cust_lastname FROM Account a  
INNER JOIN Customer c ON a.cust_id = c.cust_id WHERE account_id = 14567;  
-- select the first name and last name from Customer whose account id  
-- from Account is 14567 by joining cust_id(key)
```

CUST_FIRSTNAME	CUST_LASTNAME
Balashivaram	Ganesan

```
SELECT quantity FROM Stock WHERE cart_id = 106 AND product_id = 842;  
-- select the quantity from Stock whose cart id is 106 and product id is 842
```

QUANTITY
11



```
SELECT COUNT(*) FROM Employee WHERE store_id = 1;  
-- select the count of Employees of Employee who works in store id 1
```

COUNT(*)
3

```
SELECT AVG(salary) FROM Employee;  
-- select the average salary of all Employees from Employee
```

AVG(SALARY)
43000

```
SELECT MAX(total) FROM Cart;  
-- select maximum value of total amount from Cart
```

MAX(TOTAL)
99000