



**Data Base System Project CSS 330 – A**  
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## **Chapter 1 : Introduction :**

### **Report :**

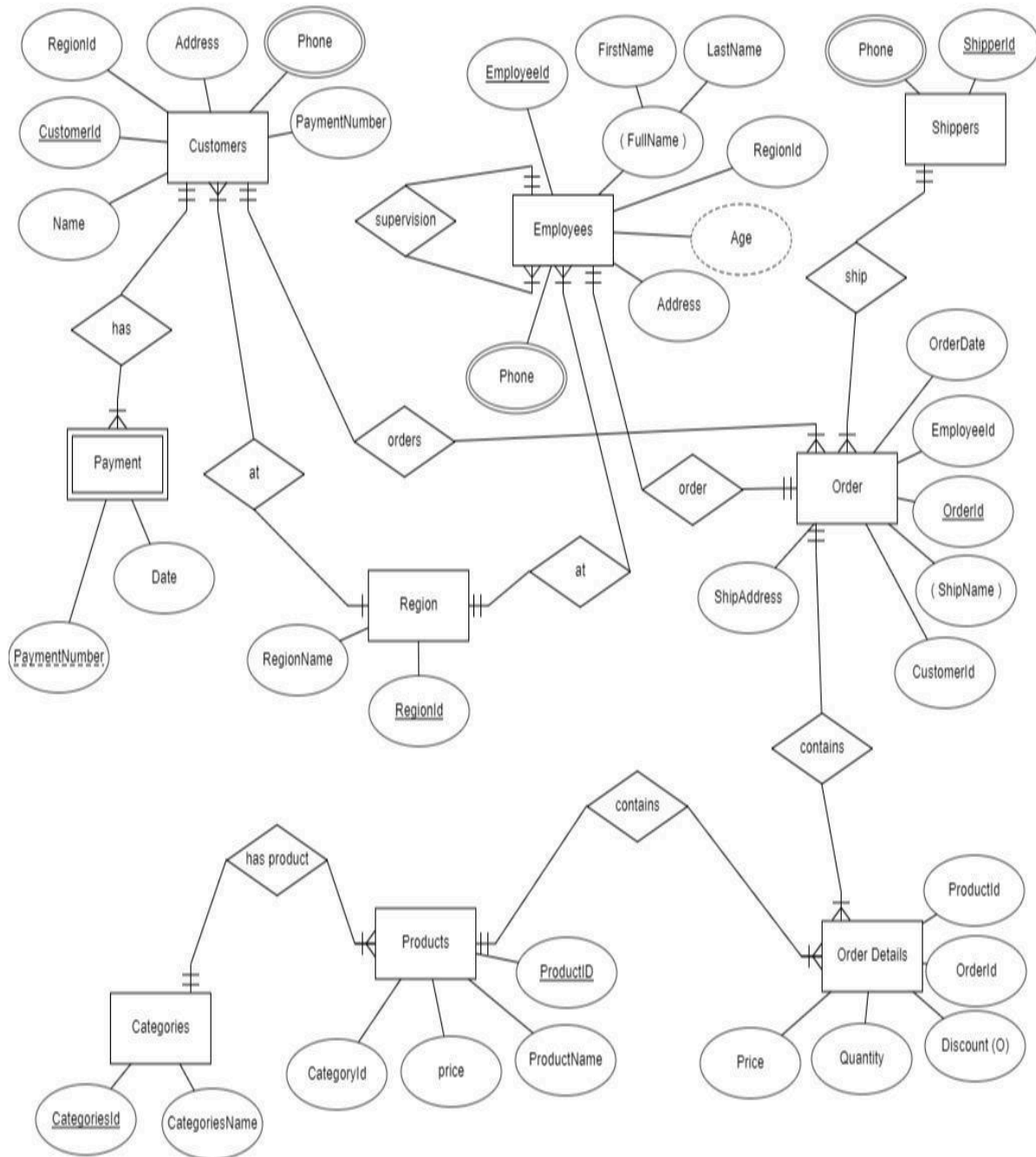
This Project is done by two students of AL Maaref University , computer science department, in data base system course Ali Khalil and Ali Fala . The project contain the database of a company that have employees,shippers,customers,payment, region, categories, products, order and order details which shows the relation between them and what data they have represented by ER diagram and some meaningful querie. The project contains 4 chapters starting with introduction , chapter2 contains full ERD, requirements and use cases and description for them chapter 3 include the relational model of the ER diagram and chapter 4 the meaningful queries.

## Chapter 2 :

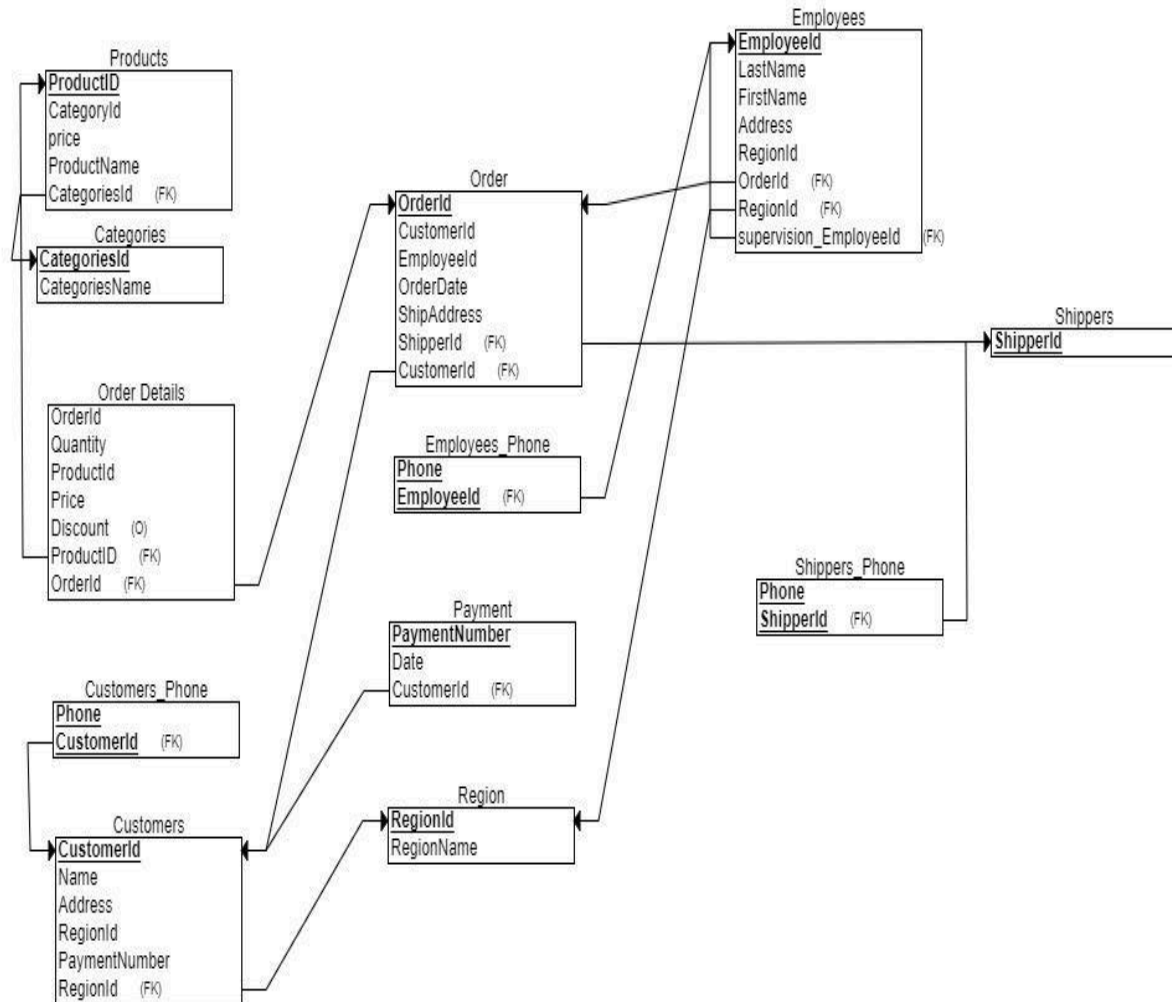
### Description about ERD:

In chapter 2 the full ERD, requirements and use cases are presented as follows: 9 entities: employees, shippers, customers, payment, region, categories, products, order and order details. Customers have 6 attributes: Name, RegionID(FK), Address, CustomerID(PK), Phone number (multivalued attribute), payment number and have mandatory one to many relation (orders) with order and mandatory many to one relation (at) with region and mandatory one to mandatory many relation (has) payment. Employee attributes have EmployeeID(PK), FullName (composite attribute of firstName and lastName), RegionID(FK), Age (Derived), Address, phone (multivalued) and mandatory one to mandatory one relation (order) with order and mandatory many to mandatory one relation (at) with region and have 1 unary relationship (supervision). Shippers have shipperID(PK), Phone (multivalued) and mandatory many to mandatory one relation (ship) with order. Payment weak entity has Date, Payment number. Region has region name, RegionID(pk). Order has OrderDate, EmployeeID(fk), OrderID(pk), shipName (composite), customerID(fk), shipAddress and mandatory one to mandatory many relation (contains) with order details. Categories have categoryID(pk), categoryName and mandatory one to mandatory many relation (has product) with products. Products have categoryID(fk), price, productName, ProductID(PK), and mandatory one to mandatory many relation (contains) with order details. Order details have productID(fk), OrderID(fk), Discount (optional), quantity and price.

### ER Diagram:



## Chapter 3 :



## Chapter 4 :

*/\* 3 queries that join 2 tables\*/*

*/\*list first name , last name and region of employees. \*/*

```
select e.firstName , e.LastName, r.name from employees e inner join region r on r.RegionId = e.RegionId;
```

*/\*list name , adress and region of customers. \*/*

```
select c.name, c.address, r.name from customers c inner join region r on r.RegionId = c.RegionID;
```

*/\*list name , adress and date of payment of customers. \*/*

```
select c.name, c.address, p.date from customers c  
inner join payment p on p.PaymentNumber = c.PaymentNumber;
```

*/\* 2 queries that join 3 tables \*/*

*/\*list name , adress , region and date of orders of customers. \*/*

```
select c.Name, c.address, r.name, o.OrderDate from customers c  
inner join region r on r.RegionId = c.RegionID  
inner join orders o on o.CustomerID = c.CustomerID ;
```

*/\*list first name , last name and customers of employees. \*/*

```
select e.firstName , e.LastName, c.Name from employees e  
inner join orders o on o.EmployeeID = e.EmployeeID  
inner join customers c on c.CustomerID = o.CustomerID;
```

*/\* 2 queries with aggregate calculation \*/*

*/\*list the average price of product. \*/*

```
select avg(price) from products;
```

*/\* number of name of product.\*/*

```
select count(productName) from products;
```

```
/* 2 subqueries */
```

```
/*list first name , last name,age and address of employees where Phone = "81-123 456" */
```

```
select firstname , lastname, age, address from employees where Phone = "81-123 456";
```

```
/name of product where Price = "19.0000"./
```

```
select productName from products where Price = "19.0000";
```

```
/* 1 single table query */
```

```
select ShipName from orders where ShipAddress='Tyr' group by ShipName having count(*) = 1  
order by OrderID;
```

## Data for queries :



DATABASEPROJECTS (1).sql

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