

# Kau Restaurant

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## ❖ Scenario

### **KAU RESTURANT**

A group of students in King Abdelaziz university started their own restaurant near there college.

Their restaurant needs to have a data base management system to help them keep their restaurant working with the least bit of problems They must start recording the restaurant data base recruitment and its as follow.

There system needs to record their employees, there employee's information is as follow.

Employee name (first name, last name), (unique)social security number, phone number, address, date of birth.

Not all employees have the same job there will be a cashier with cashier id(unique) and will have an account (username, password), and a delivery driver with a unique driver id, the driver needs to have a driving license that will also be recorded in the system as License number(unique), expiration date, blood type. all the employees will have a supervisor and there will be only one supervisor.

The restaurant will need to record and keep track of all the orders all orders have an order type, order data, order id (unique), and every order have a bill with bill number(unique) and total price.

the customers may order an item, the restaurant needs to determine how many items was ordered, every item have a name(unique), price, and the number of calories in it, and it will be supplied by only one supplier.

The restaurant will need a supplier to bring the items there each supplier will have a name, and an id(unique), he will supply many items.

and it will have to determines if the order is pick up or delivery if it needs to be delivered the restaurant will have to choose a driver to deliver the order, and a delivery car every will have Car License, car plate, and a car id(unique), and will deliver to one or more customers.

The restaurant will have to keep recorded of their customers each customer will have a name, id(unique), phone, and an address, and it will need to define if the customer will pick up the order or need it delivered to him.

## ❖ Identify entities and relation

- Each **Employee** must be either **Cashier** or **Driver**
- **Employee** can supervise many **Employees**
- **Employee** can be supervised by only one supervisor.
- Each **Driver** must have one **driving license**
- Each **Driving\_license** must have a one **Driver**
- Each **Cashier** must take **Order**
- Each **Order** is taken by one **Cashier**
- Each **Order** must have one **bill**
- Each **bill** is for one **Order**
- **Order** can have many **Food**
- Each **Food** can be in many **Orders**
- **Order** can have many **items**
- Each **item** can be in many **Orders**
- Each **item** is supplied by one **supplier**
- Each **supplier** supplies many **item**
- Each **Order** must be either **Delivery\_Order** or **Pickup\_Order**
- Each **Delivery\_Order** must be delivered by one **Car** to one **Customer**
- Each **delivery Car** is delivering many **Orders** to many **Customers**
- Each **Customer** is getting one **Order** by one **Car**
- Each **Pickup\_Order** is picked by one **Customer**
- Each **Customer** picks a **Pickup Order**

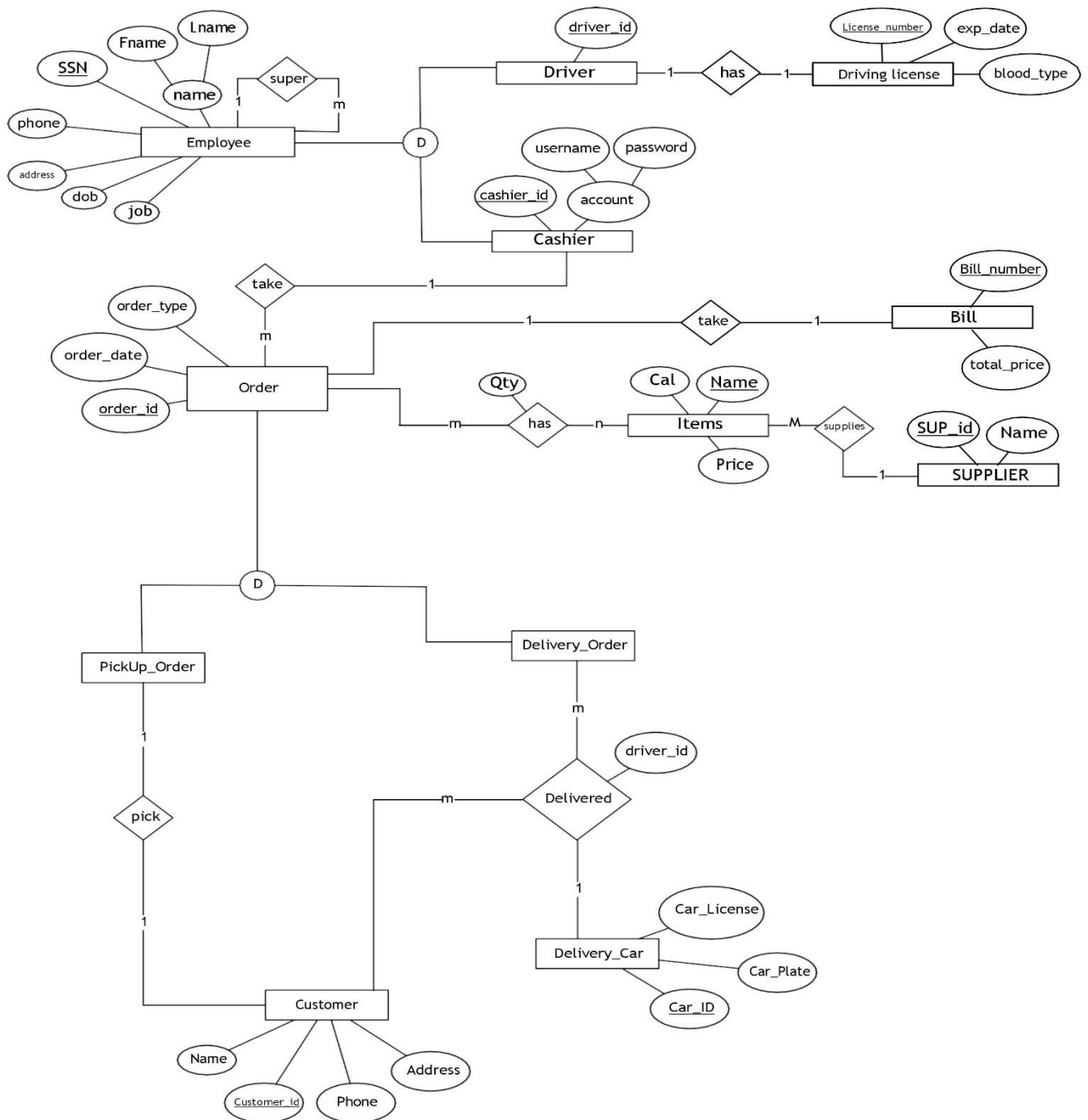
Entities:

Employee, Cashier, Driver, Driving license, Bill, Order, item, Delivery car, Customer, Delivery order, Pickup order.

Entity	Attributes						
Employee	SSN	Full_Name	Phone	Address	DOB	Job	
Cashier	Cashair_id	Account					
Driver	Driver_id						
Driving_license	License_number	Exp_date	Blood type				
Bill	Bill_number	Total_price					
Order	Order_id	Order_date	Order_type				
Item	Name	Price	Calories				
Delivery_car	Car_id	Car_plate	Car_license				
Customer	Customer_id	Name	Phone	address			
Supplier	Sup_id	Name					

Primary key – Composite

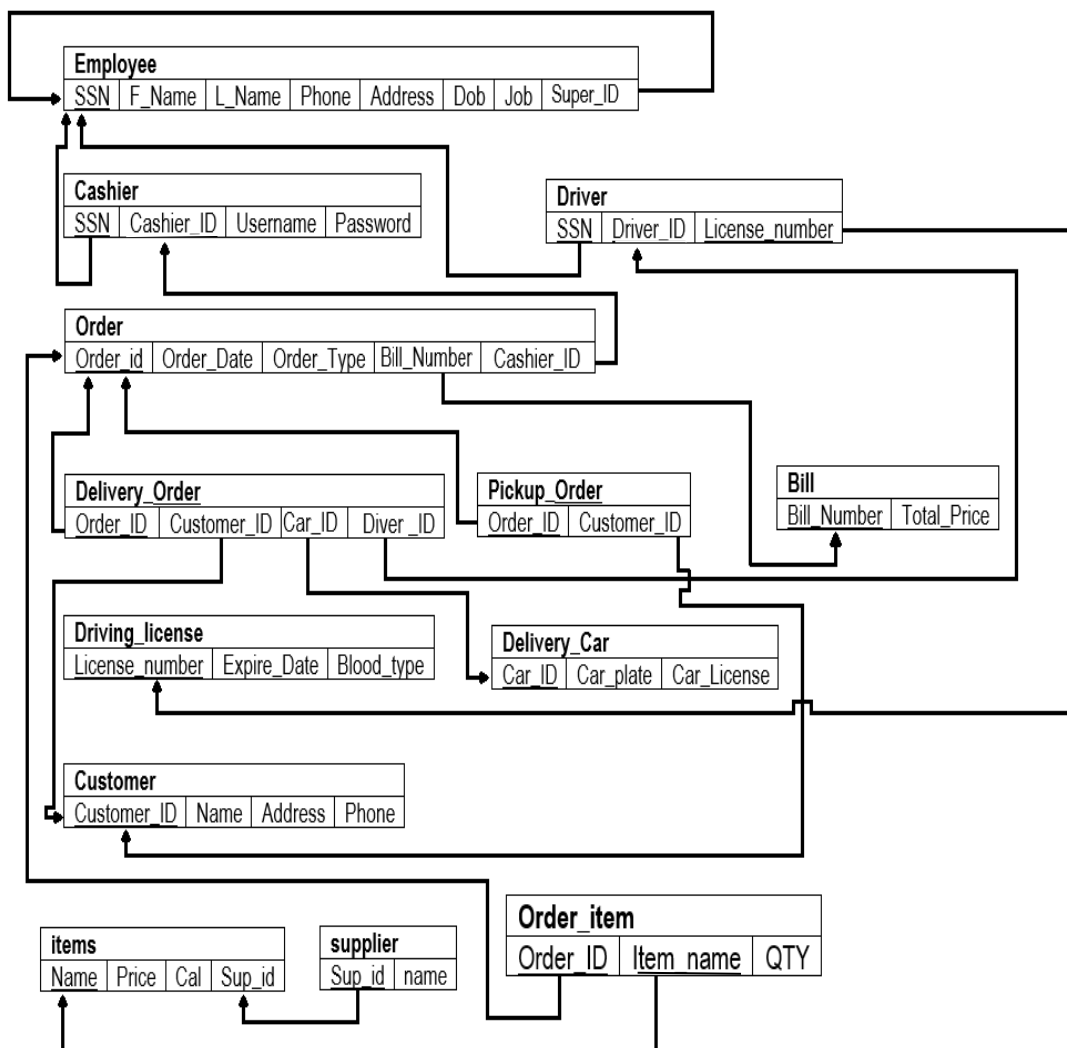
## ❖ Er-diagram



## ❖ 10 Queries

1. How to prints Employee according their job?
2. How to prints all Employees with their supervisor?
3. How to create view for the Orders with their bills and type of order?
4. How to have order and driver information?
5. How to print all Orders that has Items from one specific Supplier?
6. How to insert Employees?
7. How to fire an employee?
8. How to show driver information ?
9. How to update Order?
10. How to Print all Delivery\_Order that delivered by specific Driver?

## ❖ Schema



## ❖ Queries by Algebra

- $\sigma$  job=cashier (employee)
- $\pi$  Fname,Lname,driver\_id,license\_number( $\sigma$  job=driver (employee,driver))

## ❖ 10 queries by SQL

### 1. How to prints Employee according their job?

- Select ssn,fname,lname, job\_type from employee where job\_type = 'Cashier';

### 2. How to prints all Employees with their supervisor?

- select a.ssn as "employee\_id",a.fname as "employee\_name",s.fname as "super\_name", s.ssn as "super\_ssn" from employee a, employee s where a.super\_ssn = s.ssn;

### 3. How to create view for the Orders with their bills and type of order?

- Create view Order\_bill as select order\_id, order\_type, bill\_number from orders, bill where orders.bill\_number = bill#;

### 4. How to have order and driver information?

- select distinct orders.ORDER\_ID,drive\_id from orders,delivery\_order where orders.order\_id = delivery\_order.order\_id;

### 5. How to print all Orders that has Items from one specific Supplier?

- Select order\_id from order\_item where name in(select item.name from item,supplieres where supplieres.sup\_id = item.sup\_id);

### 6. How to insert Employees?

- Insert into employee values(109222, '0569813231','jeddah','2-1-1998', ' meshal', 'mohammed',0);

### 7. How to update Order?

- update orders set order\_type = 'Delivery\_car' where order\_id = 5;

### 8. How to Print all Delivery\_Order that delivered by specific Driver?

- Select \* from orders where order\_id in (select order\_id from delivery\_order where drive\_id = 301);

### 9. How to fire an employee?

- delete from employee where ssn = 1;

### 10. How to show driver information ?

- SELECT Fname,Lname ,driver\_id,license from employee,driver where job\_type = 'Driver';

## ❖ Complex queries

### 1- Complex using in OR not in:

- Select ssn,fname, job\_type from employee where ssn not in(select ssn from cashir);

### 2- Complex with Selection from different tables at one time:

- Select item.name, supplieres.name from supplieres, item where item.supplier\_id = supplieres.sup\_id;

### 3- Complex using group by and having:

- Select count(\*),job\_type from employee group by job\_type having count(\*) > 3;

### 4- Complex using Nesting with aggregation:

- Select \* from bill where TOTAL\_PRICE > (select avg(TOTAL\_PRICE) from bill);

### 5- Complex with outer join:

- Select e.ssn as "Employee",s.ssn as "Super" from employee e, employee s where e.super\_ssn = s.ssn(+);