

DBMS MINI-PROJECT

RESTAURANT MANAGEMENT SYSTEM

(MIS NO`s. 111903135, 111903137)

Problem Statement:

Creating a database management system for a restaurant to manage customers, employees, orders and food items.

Objectives:

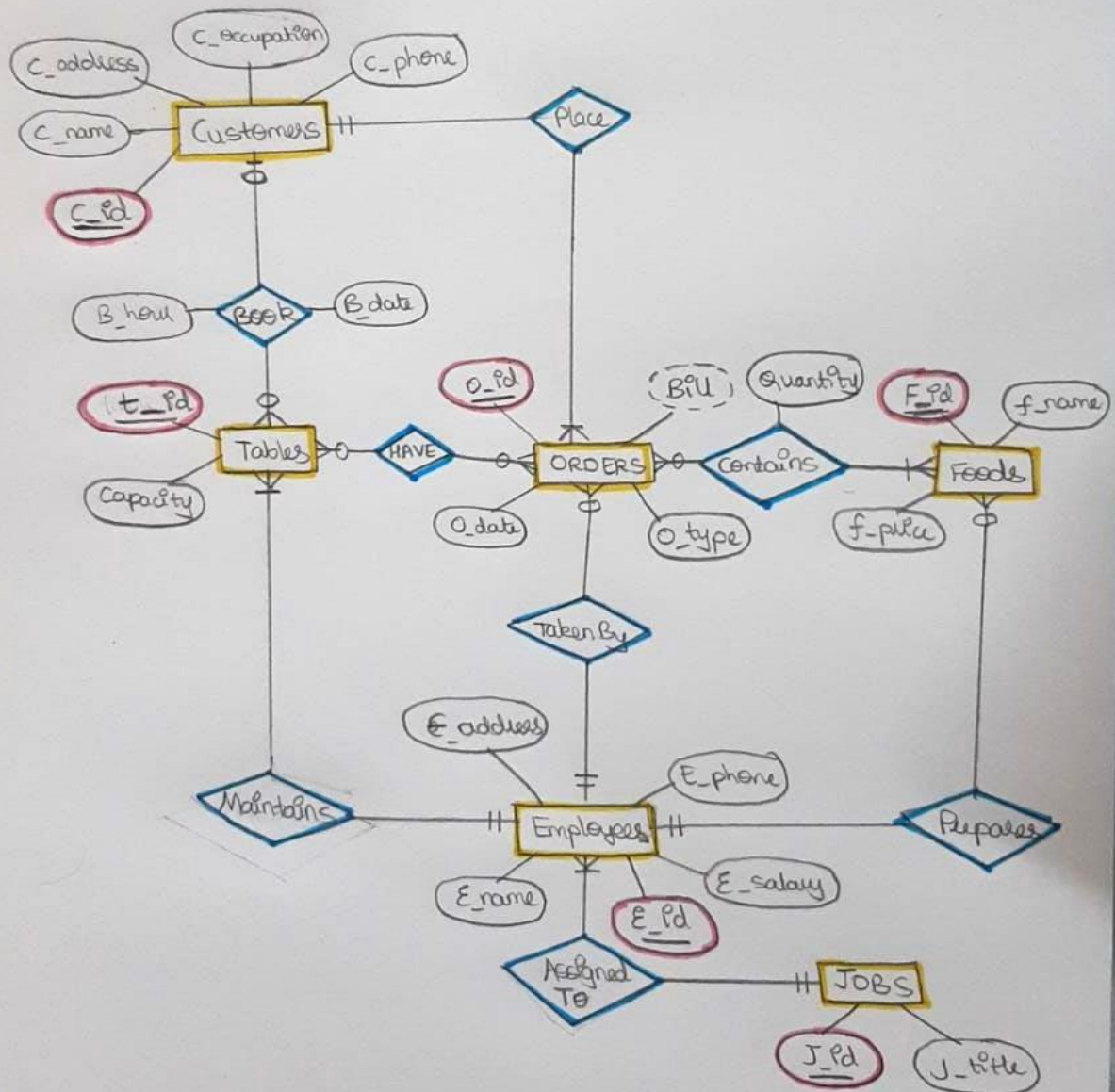
- The database would contain data about the customers and employees as well as food items and order details.
- This restaurant management database can monitor the employees of the restaurant to ensure proper management of the restaurant.
- To enhance efficiency to be able to manage the restaurant in a better manner.

Functional Requirements:

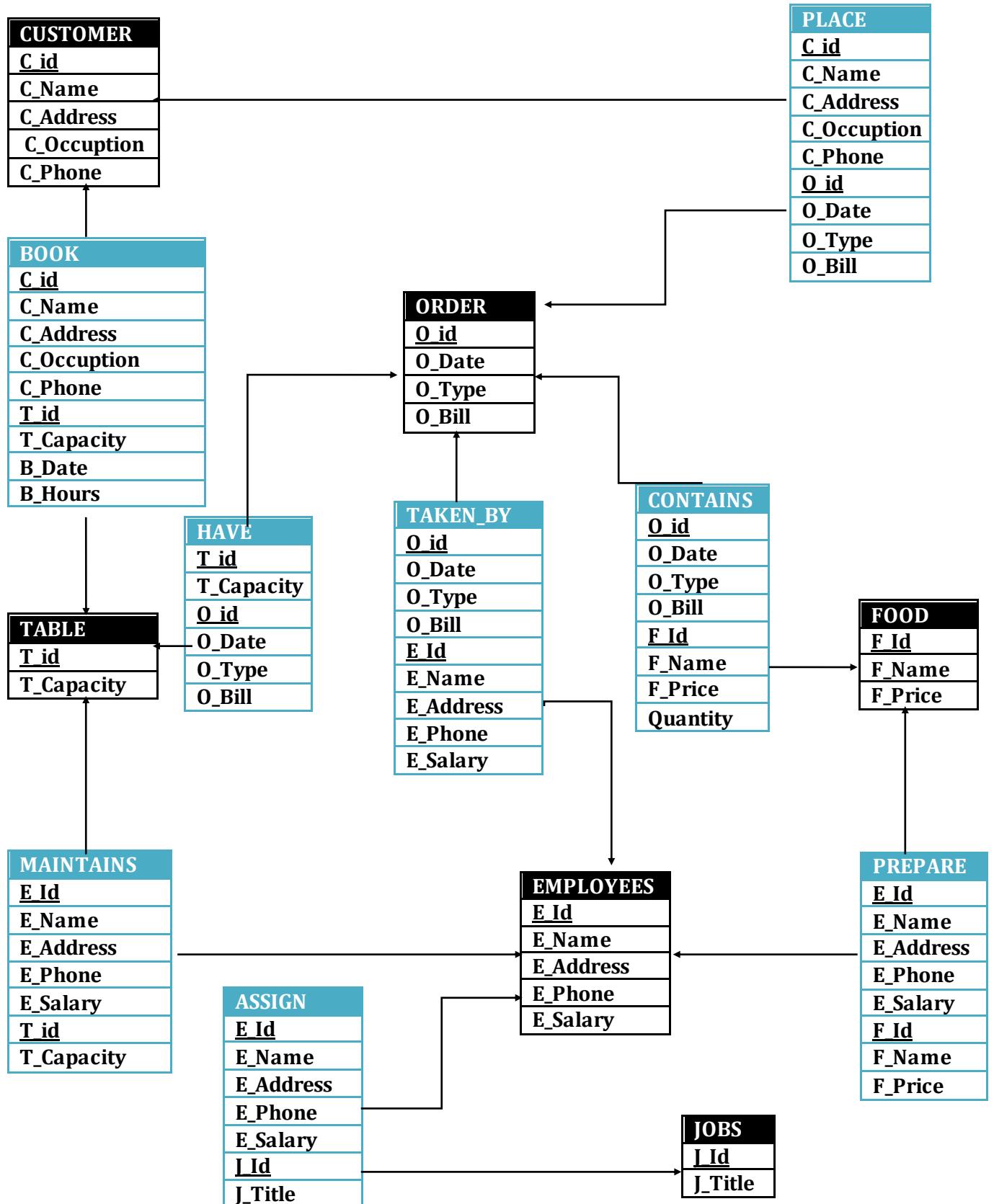
- ❖ The system is able to see bookings or orders of a restaurant.
- ❖ To find out all employees and monitor their activity.
- ❖ To be able to identify best selling and least selling food items.

ER Diagram:

ER Diagram



Relational Schemas:



Functional Dependencies:

(CUSTOMER)c_id -> (CUSTOMER) c_name, c_address, c_phone, c_occupation

(tables)t_id -> (tables) t_id, capacity, e_id

(Orders) o_id -> (Orders)o_date, o_type

(Foods) f_id -> (Foods)f_name, f_price

(Employees) e_id -> (Employees)e_name, e_address, e_salary, e_phone

Normalization:

Normalisation

Relation : Place

<u>c_id</u>	c_name	c_address	c_phone	c_occupation	<u>o_id</u>	o_type	o_date	bill
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1NF:

<u>c_id</u>	c_name	c_address	c_phone	c_occupation	<u>o_id</u>	o_type	o_date	bill
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2NF:

CUSTOMERS

<u>c_id</u>	c_name	c_address	c_phone	c_occupation
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ORDERS

<u>o_id</u>	o_type	o_date	bill	c_id
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3NF: Same as 2NF

Relation : BOOK

<u>c_id</u>	c_name	c_address	c_phone	c_occupation	<u>t_id</u>	capacity	b_date	b_how
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1NF:

<u>c_id</u>	c_name	c_address	c_phone	c_occupation	<u>t_id</u>	capacity	b_date	b_how
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2NF & 3NF (both same):

Customers

<u>c_id</u>	c_name	c_address	c_phone	c_occupation
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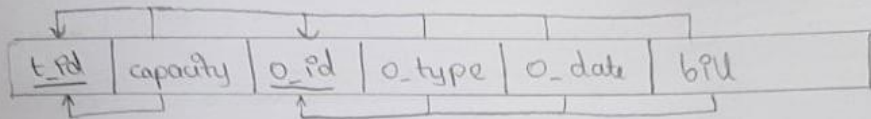
Tables

<u>t_id</u>	capacity
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Booking

<u>c_id</u>	<u>t_id</u>	b_date	b_how
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Relation : HAVE



3NF:

TABLES

<u>t_id</u>	capacity
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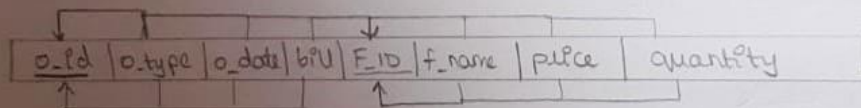
ORDERS

<u>o_id</u>	o_type	o_date	bill
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ORDER_HISTORY

<u>t_id</u>	<u>o_id</u>
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Relation : CONTAINS



3NF:

ORDERS

<u>o_id</u>	o_type	o_date	bill
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FOODS

<u>f_id</u>	f_name	price
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Items

<u>o_id</u>	<u>f_id</u>	quantity
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Relation: TAKEN BY

<u>o_id</u>	o_type	o_date	bill	<u>e_id</u>	e_name	e_salary	e_address	e_phone
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3NF:

ORDERS

<u>o_id</u>	o_type	o_date	bill	<u>e_id</u>
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Employees

<u>e_id</u>	e_name	e_phone	e_address	e_salary
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Relation: MAINTAINS

<u>e_id</u>	e_name	e_salary	e_address	e_phone	<u>t_id</u>	capacity
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3NF:

TABLES

<u>t_id</u>	capacity	<u>e_id</u>
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EMPLOYEES

<u>e_id</u>	e_name	e_phone	e_address	e_salary
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Relation: Prepara

<u>e_id</u>	e_name	e_salary	e_address	e_phone	<u>f_id</u>	f_name	price
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3NF:

EMPLOYEES

<u>e_id</u>	e_name	e_salary	e_address	e_phone
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FOODS

<u>f_id</u>	f_name	price	e_id
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Relation: Assign

<u>e_id</u>	e_name	e_salary	e_address	e_phone	<u>j_id</u>	j_title
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3NF:

EMPLOYEES

<u>e_id</u>	e_name	e_salary	e_address	e_phone	j_id
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JOBS

<u>j_id</u>	j_title
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Normalized Tables (up to 3NF)

ITEMS

<u>O_id</u>	<u>F_id</u>	quantity
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ORDERS

<u>O_id</u>	O_type	O_date	bill	C_id	E_id
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ORDER_HISTORY

<u>T_id</u>	<u>O_id</u>
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JOBS

<u>J_id</u>	J_title
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EMPLOYEES

<u>E_id</u>	E_name	E_phone	e_address	E_salary	J_id
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FOODS

<u>F_id</u>	F_name	price	E_id
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TABLES

<u>T_id</u>	capacity	E_id
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BOOKING

<u>C_id</u>	<u>T_id</u>	B_date	B_hour
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CUSTOMERS

<u>C_id</u>	C_name	C_address	C_phone	C_occupation
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Functional Dependencies:

(CUSTOMER) c_id -> (CUSTOMER) c_name, c_address, c_phone, c_occupation

(tables) t_id -> (tables) t_id, capacity, e_id

(Orders) o_id -> (Orders) o_date, o_type

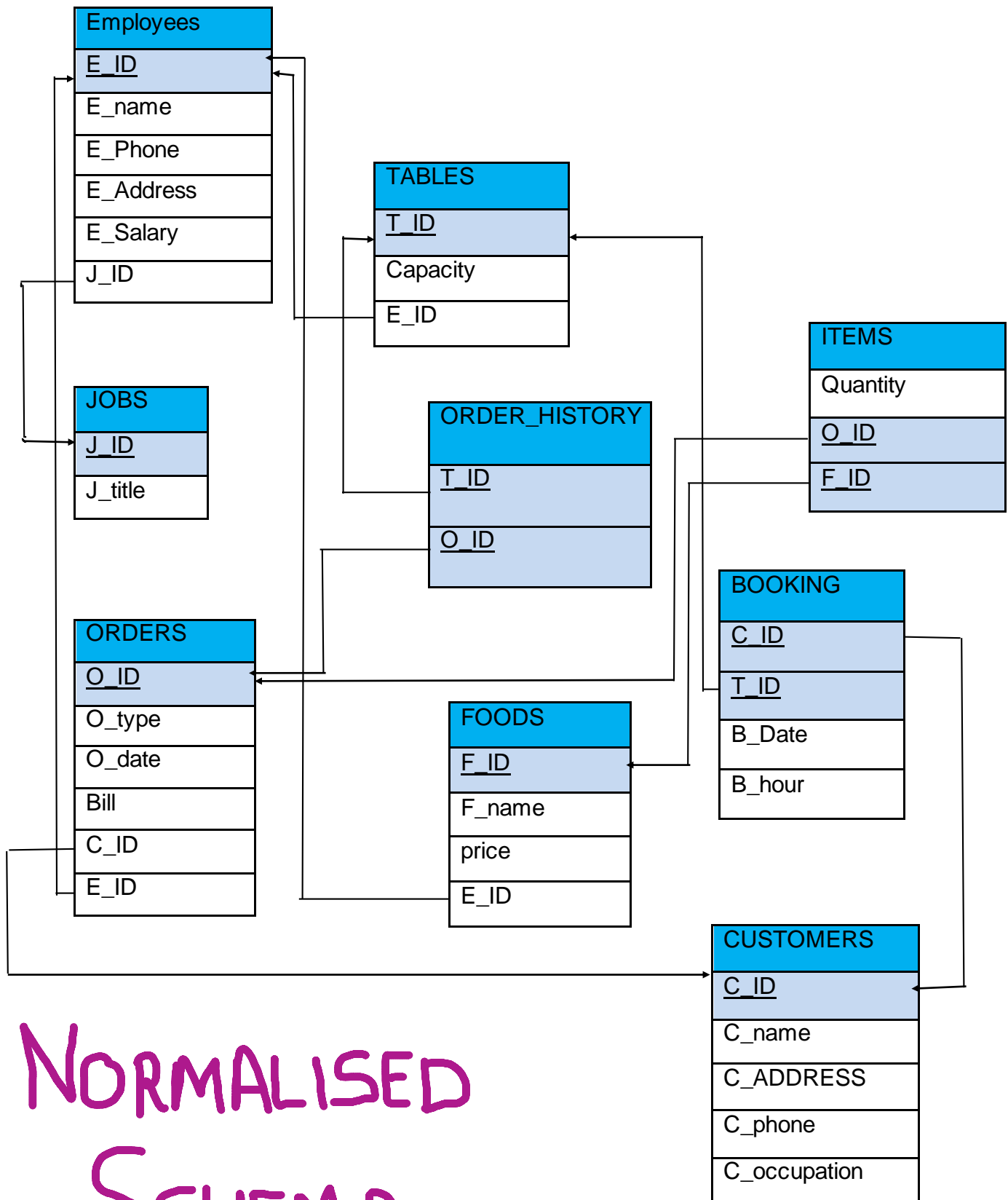
(Foods) f_id -> (Foods) f_name, f_price

(Employees) e_id -> (Employees) e_name, e_address, e_salary, e_phone

(Jobs) j_id -> (JOBS) j_title

(Booking) C_id, T_id -> (booking) B_date, B_hour

(ITEMS) O_id, F_id -> (items) quantity



**NORMALISED
SCHEMA**