Team numbers (3)

Section: CY9

Students' Name:

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Project Schedule

Task	Due Date	Responsible member
Project Proposal	**29 September**	**All members**
System Analysis and E-R model	**23 October**	All members
Logical modelling and normalization	**25 October**	All members
Physical Database implementation	**10 November**	All members
Complete final report	**12 November**	All members

Introduction

Description of the problem:

The project is a database management system for Family Express. We have worked on this system to ensure an easy user experience and provide services such as displaying different types of food, care products and other services. Every purchase is recorded in an invoice, and we make sure to provide the best and most valuable products to improve the efficiency of the store. The market also has an address and a phone number to help customers communicate with us for faster service such as delivery. Various sources are handled to deliver products to customers.

Initial list of entities (tables) that have been identified

ENTITIES	EXPLANATION
SUPPLIER	Entity represents all the suppliers it deals with to supply food and care products determined by the attribute Supplier_name Supplier_Country Primary key: Supplier_ID
CUSTOMER	Entity which represents all people that buy or visit the market determined by the attribute Customer_name Customer_phone Customer_address Primary key: Customer_ID
EMPLOYEE	Entity which represents all Employee working in the market determined by the attribute Employee_name Employee_phone Primary key: Employee_ID
ORDER	Entity which represents what the customer buys determined by the attribute Order_cost Order_date Primary key: Order_ID
FOOD	Entity which represents a food for sale determined by the attribute Food_type Food_price Food_expD Primary key: Food_ID

CARE	Entity which represents a care product for sale determined by the attribute Care_type Care_price Care_expD Primary key: Care_ID
INVOICE	Entity which represents all info about order determined by the attribute Invoice_Date Primary key: Invoice_ID
Delivery	Entity which represents delivery company delivers the order to a customer determined by the attribute Delivery_date Primary key: Delivery_ID

System Analysis and ER Model

Project Scenario:

Customer, entities:

- one customer can make one or many orders
- one or many orders can be made by one customer

Order, entities:

- one and only one invoice can issued by one or many order
- One Order line can be contained by one or more than one order

---

Care, entities:

- One or more than one Care product can store in one Supplier
- One supplier can be store one or more than one Care product

---

Food, entities:

- One or more than one Food product can store in one Supplier
- One supplier can be store one or more than one Food product

---

Supplier, entities:

- One and only one Supplier can export one Invoice
- One and only one Invoice can be export one supplier

Invoice, entities:

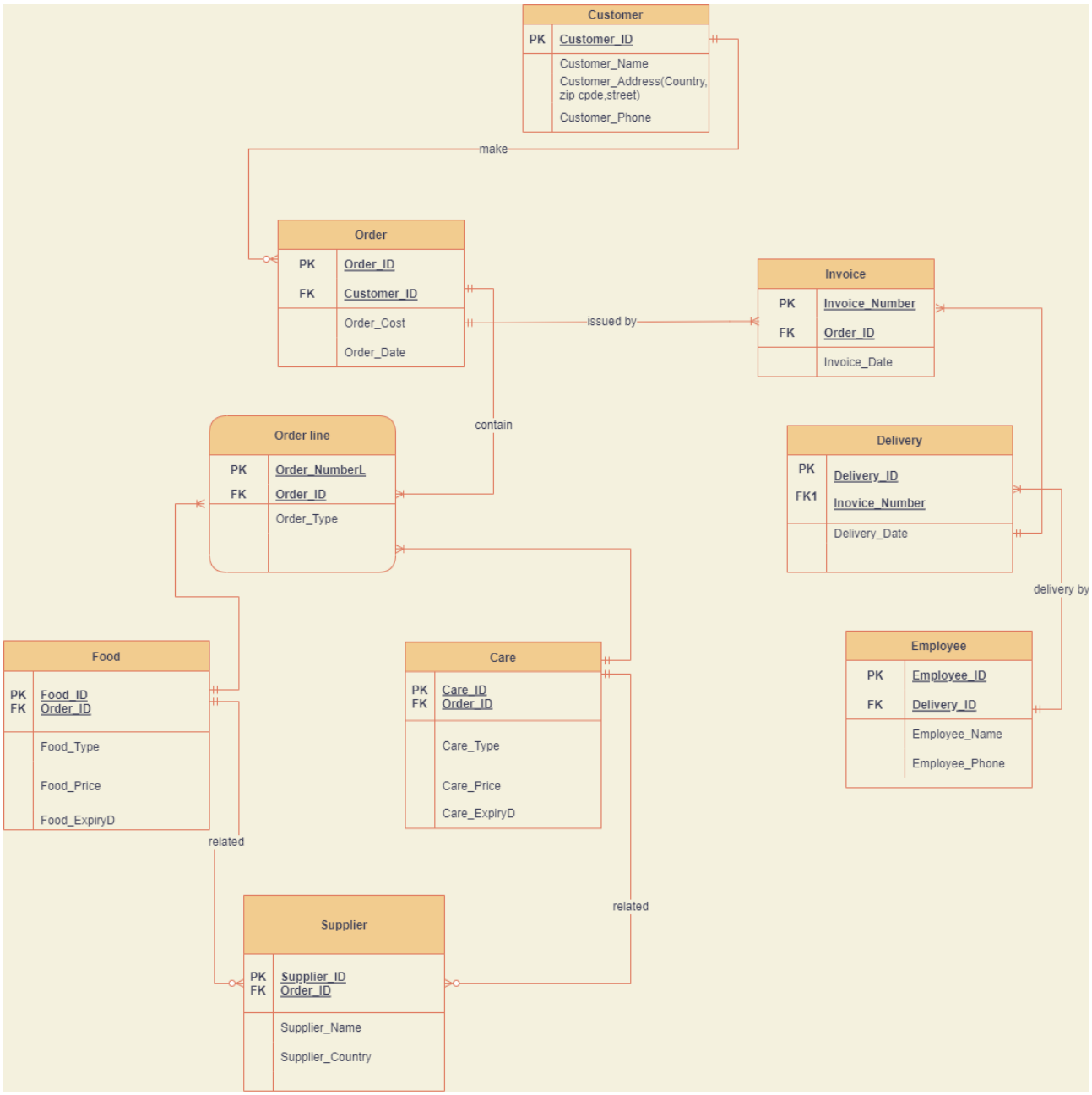
- One and only one Invoice can issued by one or many order

Delivery, entities:

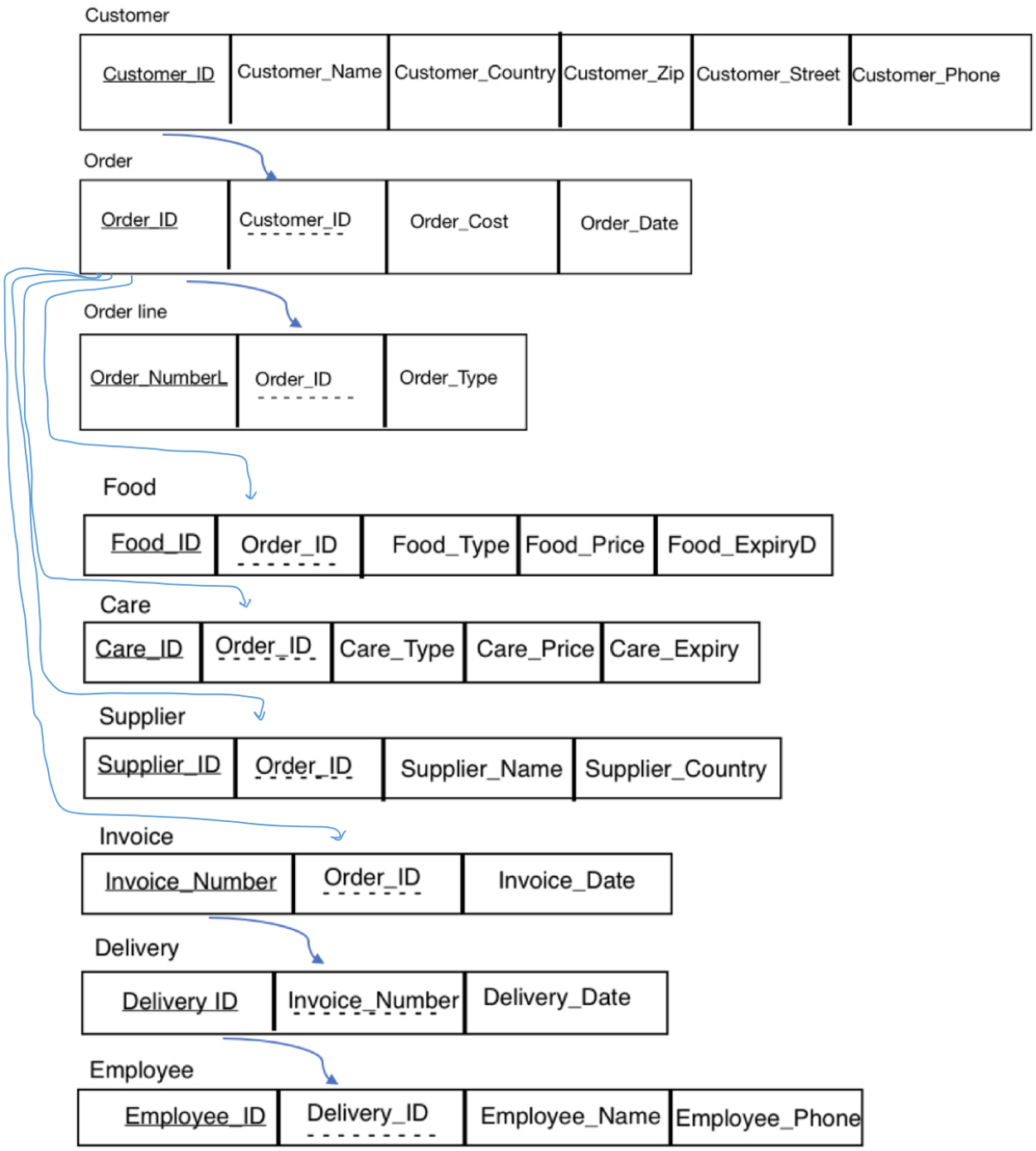
- One or more deliveries registered with one invoice

Employee, entities:

One and only one Delivery can be delivered by one and only one Employee


Customer
PK Customer_ID
Customer_Name
Customer_Address(Country, zip cpde,street)
Customer_Phone
make
Order
PK Order_ID
FK Customer_ID
Order_Cost
Order_Date
issued by
Invoice
PK Invoice_Number
FK Order_ID
Invoice_Date
contain
Order line
PK Order_NumberL
FK Order_ID
Order_Type
Delivery
PK Delivery_ID
FK1 Inovice_Number
Delivery_Date
delivery by
Food
PK Food_ID
FK Order_ID
Food_Type
Food_Price
Food_ExpiryD
Care
PK Care_ID
FK Order_ID
Care_Type
Care_Price
Care_ExpiryD
Employee
PK Employee_ID
FK Delivery_ID
Employee_Name
Employee_Phone
related
related
Supplier
PK Supplier_ID
FK Order_ID
Supplier_Name
Supplier_Country

Logical modelling



Functional Dependencies

Customer_ID → Customer_name, Customer_Country, Customer_Zip, Customer_Street, Customer_Phone
Order_ID → Order_Cost, Order_Date
Order_NumberL → Order_Type
Food_ID → Food_Type , Food_Price , Food_ExpiryD
Care_ID → Care_Type , Care_Price , Care_ExpiryD
Supplier_ID → Supplier_Name, Supplier_Country
Invoice_Number → Invoice_Date
Delivery_ID → Delivery_Date
Employee_ID → Employee_Name , Employee_Phone

Normalization

1NF:

Customer (Customer_ID, Customer_Name, Customer_Country, Customer_Phone)

Customer_Address (Customer_Country, Customer_ID#, Customer_Zip, Customer_Street)

Order (Order_ID, Customer_ID#, Order_Cost, Order_Date)

Order_Line (Order_NumberL, Order_ID#, Order_Type)

Food (Food_ID, Order_ID#, Food_Type, Food_Price, Food_ExpiryD)

Care (Care_ID, Order_ID#, Care_Type, Care_Price, Care_ExpiryD)

Supplier (Supplier_ID, Order_ID#, Supplier_Name, Supplier_Country)

Invoice (Invoice_Number, Order_ID#, Invoice_Date)

Delivery (Delivery_ID, Invoice_Number#, Delivery_Date)

Employee (Employee_ID, Delivery_ID#, Employee_Name, Employee_Phone)

2NF:

Customer (Customer_ID, Customer_Name, Customer_Phone)

Customer_Address (Customer_Country, Customer_ID#, Customer_Zip, Customer_Street,

Order (Order_ID, Customer_ID#, Order_Cost, Order_Date)

Order_Line (Order_NumberL, Order_ID#, Order_Type)

Food_Order (Food_ID, Order_ID#, Food_Type)

Food (Food_Type, Food_Price, Food_ExpiryD)

Care_Order (Care_ID, Order_ID#, Care_Type)

Care (Care_Type, Care_Price, Care_ExpiryD)

Supplier (Supplier_ID, Order_ID#, Supplier_Name, Supplier_Country)

Invoice (Invoice_Number, Order_ID#, Invoice_Date)

Delivery (Delivery_ID, Invoice_Number#, Delivery_Date)

Employee (Employee_ID, Delivery_ID#, Employee_Name, Employee_Phone)

3NF:

Employee (Employee_ID, Delivery_ID#)

Employee_info (Employee_ID, Employee_Name, Employee_Phone)

Physical Database implementation

Create Tables

1 Table customer

```
-- Create table of Customer
CREATE TABLE CUSTOMER
(customer_ID INT,
customer_name VARCHAR2(10),
customer_phone INT,
CONSTRAINT pk_CUTOMER PRIMARY KEY (customer_ID));
```

```
Table created.
```

2 Table customer_address

```
-- Create table of Customer_address
CREATE TABLE CUSTOMER_address
(Customer_ID INT,
customer_country VARCHAR2(30),
customer_street VARCHAR2(50),
customer_zip_code INT,
CONSTRAINT pk_CUSTOMER_address PRIMARY KEY (customer_country),
CONSTRAINT fk_CUSTOMER FOREIGN KEY (customer_ID) references CUSTOMER(customer_ID) );
```

```
Table created.
```

3 Table order

```
-- Create table of ordder
CREATE TABLE ordder
(ordder_ID INT NOT NULL PRIMARY KEY,
customer_ID INT NOT NULL,
ordder_Date DATE,
order_cost INT);
alter table ordder add FOREIGN KEY (customer_ID) references CUSTOMER(customer_ID);
```

```
Table created.
```

4 Table order_line

```

-- Create table of orderLine
CREATE TABLE OrderLine
(OrderNumberL INT NOT NULL,
ordder_ID INT NOT NULL,
order_type VARCHAR2(20),
CONSTRAINT pk_Orderline PRIMARY KEY (OrderNumberL),
CONSTRAINT fk_ordder_ID FOREIGN KEY (ordder_ID) REFERENCES ordder (ordder_ID));
```

```
Table created.
```

5 Table food_order

```
-- Create table of Food
CREATE TABLE Food_order
(Food_ID INT NOT NULL,
ordder_ID INT NOT NULL,
Food_type VARCHAR2(20),
CONSTRAINT pk_Food_order PRIMARY KEY (Food_ID),
CONSTRAINT fk_ordder FOREIGN KEY (ordder_ID) REFERENCES ordder (ordder_ID));
```

```
Table created.
```

6 Table food

```
-- Create table of Food
CREATE TABLE Food
(Food_type VARCHAR2(20),
Food_Price DECIMAL(6,2),
Food_ExpiryD Date,
CONSTRAINT pk_Food PRIMARY KEY (Food_type));
```

```
Table created.
```

7 Table care_order

```
-- Create table of Care_order
CREATE TABLE Care_order
(Care_ID INT NOT NULL,
ordder_ID INT NOT NULL,
Care_type VARCHAR2(20),
CONSTRAINT pk_Care_order PRIMARY KEY (Care_ID),
CONSTRAINT fk_order FOREIGN KEY (ordder_ID) REFERENCES ordder (ordder_ID));
```

```
Table created.
```

8 Table care

```
-- Create table of Care
CREATE TABLE Care
(Care_type VARCHAR2(20),
Care_Price DECIMAL(6,2),
Care_ExpiryD DATE,
CONSTRAINT pk_Care PRIMARY KEY (Care_type));
```

```
Table created.
```

9 Table supplier

```
-- Create Table of Supplier
CREATE TABLE SUPPLIER
(Supplier_ID INT NOT NULL,
ordder_ID INT NOT NULL,
SUPPLIER_name VARCHAR2(10),
SUPPLIER_Country VARCHAR2(30),
CONSTRAINT pk_supplier PRIMARY KEY (Supplier_ID),
CONSTRAINT fk_orderr FOREIGN KEY (ordder_ID) REFERENCES ordder (ordder_ID));
```

```
Table created.
```

10 Table invoice

```
-- Create table of Invoice
CREATE TABLE INVOICE
(Invoice_number INT NOT NULL,
ordder_ID INT NOT NULL,
INVOICE_Date DATE,
CONSTRAINT pk_invoice PRIMARY KEY (Invoice_number),
CONSTRAINT fk_ordderr FOREIGN KEY (ordder_ID) REFERENCES ordder (ordder_ID));
```

```
Table created.
```

11 Table delivery

```
-- Create table of Delivery
CREATE TABLE Delivery
(Delivery_ID number(8),
INVOICE_number number(8),
Delivery_Date DATE,
CONSTRAINT pk_Delivery PRIMARY KEY (Delivery_ID),
CONSTRAINT fk_INVOICE FOREIGN KEY (INVOICE_number) REFERENCES INVOICE (INVOICE_number));
```

```
Table created.
```

12 Table employee

```
-- Create table of Employee
CREATE TABLE Employeee
(Employeee_ID number(8),
Delivery_ID number(8),
CONSTRAINT pk_Employeee PRIMARY KEY (Employeee_ID),
CONSTRAINT fk_Delivery FOREIGN KEY (Delivery_ID) REFERENCES Delivery (Delivery_ID));
```

```
Table created.
```

13 Table employee_info

```
-- Create table of Employee_info
CREATE TABLE Employee_info
(Employeee_ID number(8),
Employee_name VARCHAR2(20),
Employee_phone number(10) ,
CONSTRAINT pk_Employee_info PRIMARY KEY (Employeee_ID));
```

```
Table created.
```

Insert and Select Tables

1 Table customer

```
-- Insert and Select table of Customer
insert into CUSTOMER values(123456,'Sameer',966555674321);
insert into CUSTOMER values(567434,'Sara',96655616879l);
insert into CUSTOMER values(242456,'Abdullah',96645717742);
insert into CUSTOMER values(224487,'Yara',966280595000);
insert into CUSTOMER values(287900,'Jameela',9662390595390);
SELECT * FROM CUSTOMER;
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

CUSTOMER_ID	CUSTOMER_NAME	CUSTOMER_PHONE
123456	Sameer	966555674321
567434	Sara	966556168791
242456	Abdullah	96645717742
224487	Yara	966280595000
287900	Jameela	9662390595390

Download CSV

5 rows selected.

2 Table customer_address

```
-- Insert and Select table of Customer_address
insert into CUSTOMER_address values(123456,'Jeddah Alsafa District','Om Alqura St','23576');
insert into CUSTOMER_address values(567434,'Riyadh Jasmen District','T1 St','21675');
insert into CUSTOMER_address values(242456,'Dubai Alwasel District','Sheikh Zayed Road','35415');
insert into CUSTOMER_address values(224487,'Southampton','London Road','45367');
insert into CUSTOMER_address values(287900,'Alkhober Alolaya District','Altahlia St','87652');
SELECT * FROM CUSTOMER_address;
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

CUSTOMER_ID	CUSTOMER_COUNTRY	CUSTOMER_STREET	CUSTOMER_ZIP_CODE
123456	Jeddah Alsafa District	Om Alqura St	23576
567434	Riyadh Jasmen District	T1 St	21675
242456	Dubai Alwasel District	Sheikh Zayed Road	35415
224487	Southampton	London Road	45367
287900	Alkhober Alolaya District	Altahlia St	87652

Download CSV

5 rows selected.

3 Table order

```
43  -- Insert and Select table of ordder
44  insert into ordder values(1,123456,date'2022-11-05',500);
45  insert into ordder values(2,567434,date'2022-04-11',678);
46  insert into ordder values(3,242456,date'2022-09-01',40);
47  insert into ordder values(4,224487,date'2022-09-09',1599);
48  insert into ordder values(5,287900,date'2021-12-29',340);
49  SELECT * FROM ordder;
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

ORDDER_ID	CUSTOMER_ID	ORDDER_DATE	ORDER_COST
1	123456	05-NOV-22	500
2	567434	11-APR-22	678
3	242456	01-SEP-22	40
4	224487	09-SEP-22	1599
5	287900	29-DEC-21	340

Download CSV

5 rows selected.

4 Table order_line

```
60  -- Insert and Select table of orderLine
61  insert into OrderLine values(11,1,'Care');
62  insert into OrderLine values(12,2,'Food');
63  insert into OrderLine values(13,3,'Food');
64  insert into OrderLine values(14,4,'Care');
65  insert into OrderLine values(15,5,'Care');
66  SELECT * FROM OrderLine;
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

ORDERNUMBERL	ORDDER_ID	ORDER_TYPE
11	1	Care
12	2	Food
13	3	Food
14	4	Care
15	5	Care

Download CSV

5 rows selected.

5 Table food_order

```
77  -- Insert and Select table of Food
78  insert into Food_order values(16,1,'Rice');
79  insert into Food_order values(17,2,'Fruites');
80  insert into Food_order values(18,3,'Vegatables');
81  insert into Food_order values(19,4,'milk');
82  insert into Food_order values(20,5,'Juice');
83  Select * from Food_order;
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

FOOD_ID	ORDDER_ID	FOOD_TYPE
16	1	Rice
17	2	Fruites
18	3	Vegatables
19	4	milk
20	5	Juice

Download CSV

5 rows selected.

6 Table food

```
93  -- Insert and Select table of Food
94  insert into Food values('Rice','4.30',date'2022-12-30');
95  insert into Food values('Fruites','3.25',date'2022-11-15');
96  insert into Food values('Vegatables','5.50',date'2022-12-05');
97  insert into Food values('milk','4.45',date'2022-11-30');
98  insert into Food values('Juice','2.15',date'2022-12-25');
99  Select * from Food;
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

FOOD_TYPE	FOOD_PRICE	FOOD_EXPIRYD
Rice	4.3	30-DEC-22
Fruites	3.25	15-NOV-22
Vegatables	5.5	05-DEC-22
milk	4.45	30-NOV-22
Juice	2.15	25-DEC-22

Download CSV

5 rows selected.

7 Table care_order

```
-- Insert and Select table of Care_order
insert into Care_order values(21,1,'Face Mask');
insert into Care_order values(22,2,'Cotton Pads');
insert into Care_order values(23,3,'Hand Cream');
insert into Care_order values(24,4,'Deodorant');
insert into Care_order values(25,5,'Hair Conditioner');
Select * from Care_order;
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

CARE_ID	ORDDER_ID	CARE_TYPE
21	1	Face Mask
22	2	Cotton Pads
23	3	Hand Cream
24	4	Deodorant
25	5	Hair Conditioner

Download CSV
5 rows selected.

8 Table care

```
-- Insert and Select table of Care
insert into Care values('Face Mask','4.50',date'2022-12-30');
insert into Care values('Cotton Pads','2.30',date'2026-12-29');
insert into Care values('Hand Cream','5.80',date'2023-03-25');
insert into Care values('Deodorant','3.40',date'2023-07-15');
insert into Care values('Hair Conditioner','4.30',date'2023-05-28');
Select * from Care;
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

CARE_TYPE	CARE_PRICE	CARE_EXPIRYD
Face Mask	4.5	30-DEC-22
Cotton Pads	2.3	29-DEC-26
Hand Cream	5.8	25-MAR-23
Deodorant	3.4	15-JUL-23
Hair Conditioner	4.3	28-MAY-23

Download CSV
5 rows selected.

9 Table supplier

```
144  -- Insert and Select Table of Supplier
145  insert into SUPPLIER values(123,1,'Mohammed','China');
146  insert into SUPPLIER values(186,2,'Ali','United Emirates');
147  insert into SUPPLIER values(546,3,'Jack','United Kingdom');
148  insert into SUPPLIER values(763,4,'Rola','Egybt');
149  insert into SUPPLIER values(836,5,'Noor','Kuwait');
150  Select * from SUPPLIER;
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

SUPPLIER_ID	ORDDER_ID	SUPPLIER_NAME	SUPPLIER_COUNTRY
123	1	Mohammed	China
186	2	Ali	United Emirates
546	3	Jack	United Kingdom
763	4	Rola	Egybt
836	5	Noor	Kuwait

Download CSV

5 rows selected.

10 Table invoice

```
161  -- Insert and Select table of Invoice
162  insert into INVOICE values(1,1,date'2022-11-05');
163  insert into INVOICE values(2,2,date'2022-04-11');
164  insert into INVOICE values(3,3,date'2022-09-01');
165  insert into INVOICE values(4,4,date'2022-09-09');
166  insert into INVOICE values(5,5,date'2022-12-29');
167  Select * from INVOICE;
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

INVOICE_NUMBER	ORDDER_ID	INVOICE_DATE
1	1	05-NOV-22
2	2	11-APR-22
3	3	01-SEP-22
4	4	09-SEP-22
5	5	29-DEC-22

Download CSV

5 rows selected.

11 Table delivery

```
178  -- Insert and Select table of Delivery
179  insert into Delivery values(60,1,date'2022-11-10');
180  insert into Delivery values(61,2,date'2022-04-16');
181  insert into Delivery values(62,3,date'2022-09-06');
182  insert into Delivery values(63,4,date'2022-09-14');
183  insert into Delivery values(64,5,date'2022-12-31');
184  Select * from Delivery;
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

DELIVERY_ID	INVOICE_NUMBER	DELIVERY_DATE
60	1	10-NOV-22
61	2	16-APR-22
62	3	06-SEP-22
63	4	14-SEP-22
64	5	31-DEC-22

Download CSV

5 rows selected.

12 Table employee

```
194  -- Insert and Select table of Employee
195  insert into Employeee values(1122,60);
196  insert into Employeee values(1376,61);
197  insert into Employeee values(1788,62);
198  insert into Employeee values(1249,63);
199  insert into Employeee values(2941,64);
200  Select * from Employeee;
```

```
Table created.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

EMPLOYEEE_ID	DELIVERY_ID
1122	60
1376	61
1788	62
1249	63
2941	64

Download CSV

5 rows selected.

13 Table employee_info

```
209  -- Insert and Select table of Employee_info
210  insert into Employee_info values(60,'Sara',0554476868);
211  insert into Employee_info values(61,'Khalid',0549156309);
212  insert into Employee_info values(62,'Waleed',0557784343);
213  insert into Employee_info values(63,'Reem',0565687322);
214  insert into Employee_info values(64,'Ahmed',0535354321);
215  Select * from Employee_info;
216
```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

EMPLOYEE_ID	EMPLOYEE_NAME	EMPLOYEE_PHONE
60	Sara	554476868
61	Khalid	549156309
62	Waleed	557784343
63	Reem	565687322
64	Ahmed	535354321

Download CSV

5 rows selected.

Queries

1 Where

```
208  -- Where
209  select customer_id,customer_phone from customer where customer_name = 'Sara';
210  select ordder_id,customer_id from ordder where ordder_date = date'2022-04-11';
```

CUSTOMER_ID	CUSTOMER_PHONE
567434	966556168791

Download CSV

ORDDER_ID	CUSTOMER_ID
2	567434

Download CSV

2 Order by

```
213  -- Order by
214  select food_type,ordder_id from food_order order by food_id desc;
215
```

FOOD_TYPE	ORDDER_ID
Juice	5
milk	4
Vegatables	3
Fruites	2
Rice	1

Download CSV

5 rows selected.

3 Group by

```
215  -- Group by
216  select count(customer_id) as customer ,customer_street from customer_address group by customer_street;
217
218  -- Aggregate functions
```

CUSTOMER	CUSTOMER_STREET
1	T1 St
1	Sheikh Zayed Road
1	London Road
1	Altahlia St
1	Om Alqura St

Download CSV

5 rows selected.

4 Aggregate functions

```
218  -- Aggregate functions
219  select AVG(order_cost) as Cost_Average from ordder;
220  select MIN(food_price) as Smallest_Price_Food from food;
```

COST_AVERAGE
631.4

Download CSV

SMALLEST_PRICE_FOOD
2.15

Download CSV

5 Group by and Aggregate functions

```
222 -- Group by and Aggregate functions
223 select min(customer_id) as customer ,customer_street from customer_address group by customer_street;
224 select max (supplier_id) as supplier_id, supplier_country  from supplier group by supplier_country order by supplier_id;
```

CUSTOMER	CUSTOMER_STREET
567434	T1 St
242456	Sheikh Zayed Road
224487	London Road
287900	Altahlia St
123456	Om Alqura St

Download CSV
5 rows selected.

SUPPLIER_ID	SUPPLIER_COUNTRY
123	China
186	United Emirates
546	United Kingdom
763	Egybt
836	Kuwait

Download CSV
5 rows selected.

6 Subquery

```
227 -- Subquery
228 select ordder_date from ordder where ordder_id = any (select ordder_id from ordder where order_cost = 40);
```

ORDDER_DATE
01-SEP-22

Download CSV

7 Join

```
246 --- Join
247 select ordder_ID,order_cost,customer_ID,customer_phone from customer natural JOIN ordder ;
```

ORDDER_ID	ORDER_COST	CUSTOMER_ID	CUSTOMER_PHONE
1	500	123456	966555674321
2	678	567434	966556168791
3	40	242456	96645717742
4	1599	224487	966280595000
5	340	287900	9662390595390

Download CSV
5 rows selected.

```
247 select Delivery_date,invoice_number,employee_phone,employee_name from delivery natural join employee_info where employee_name = 'Sara';
248
249
```

DELIVERY_DATE	INVOICE_NUMBER	EMPLOYEE_PHONE	EMPLOYEE_NAME
10-NOV-22	1	554476868	Sara
16-APR-22	2	554476868	Sara
06-SEP-22	3	554476868	Sara
14-SEP-22	4	554476868	Sara
31-DEC-22	5	554476868	Sara

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5 rows selected.

Code

```
--Create table of Customer
CREATE TABLE CUSTOMER
(customer_ID INT,
customer_name VARCHAR2(10),
customer_phone INT,
CONSTRAINT pk_CUTOMER PRIMARY KEY (customer_ID));

-- Insert and Select table of Customer
insert into CUSTOMER values(123456,'Sameer',966555674321);
insert into CUSTOMER values(567434,'Sara',966556168791);
insert into CUSTOMER values(242456,'Abdullah',96645717742);
insert into CUSTOMER values(224487,'Yara',966280595000);
insert into CUSTOMER values(287900,'Jameela',9662390595390);
SELECT * FROM CUSTOMER;


-- Create table of Customer_address
CREATE TABLE CUSTOMER_address
(Customer_ID INT,
customer_country VARCHAR2(30),
customer_street VARCHAR2(50),
customer_zip_code INT,
CONSTRAINT pk_CUSTOMER_address PRIMARY KEY (customer_country),
CONSTRAINT fk_CUSTOMER FOREIGN KEY (customer_ID) references CUSTOMER(customer_ID) );

-- Insert and Select table of Customer_address
insert into CUSTOMER_address values(123456,'Jeddah Alsafa District','Om Alqura St','23576');
insert into CUSTOMER_address values(567434,'Riyadh Jasmen District','T1 St','21675');
insert into CUSTOMER_address values(242456,'Dubai Alwasel District','Sheikh Zayed Road','35415');
```

```
insert into CUSTOMER_address values(224487,'Southampton','London Road','45367');
insert into CUSTOMER_address values(287900,'Alkhober Alolaya District','Altahlia St','87652');
SELECT * FROM CUSTOMER_address;


-- Create table of ordder
CREATE TABLE ordder
(ordder_ID INT NOT NULL PRIMARY KEY,
Customer_ID INT,
ordder_Date DATE,
order_cost INT);
alter table ordder add FOREIGN KEY (customer_ID) references CUSTOMER(customer_ID);

insert into ordder values(1,123456,date'2022-11-05',500);
insert into ordder values(2,567434,date'2022-04-11',678);
insert into ordder values(3,242456,date'2022-09-01',40);
insert into ordder values(4,224487,date'2022-09-09',1599);
insert into ordder values(5,287900,date'2021-12-29',340);

SELECT * FROM ordder;


-- Create table of orderLine
CREATE TABLE OrderLine
(OrderNumberL INT NOT NULL,
ordder_ID INT NOT NULL,
order_type VARCHAR2(20),
CONSTRAINT pk_Orderline PRIMARY KEY (OrderNumberL),
CONSTRAINT fk_ordder_ID FOREIGN KEY (ordder_ID) REFERENCES ordder (ordder_ID));

-- Insert and Select table of orderLine
insert into OrderLine values(11,1,'Care');
insert into OrderLine values(12,2,'Food');
```

```
insert into OrderLine values(13,3,'Food');
insert into OrderLine values(14,4,'Care');
insert into OrderLine values(15,5,'Care');
SELECT * FROM OrderLine;


-- Create table of Food
CREATE TABLE Food_order
(Food_ID INT NOT NULL,
ordder_ID INT NOT NULL,
Food_type VARCHAR2(20),
CONSTRAINT pk_Food_order PRIMARY KEY (Food_ID),
CONSTRAINT fk_ordder FOREIGN KEY (ordder_ID) REFERENCES ordder (ordder_ID));

-- Insert and Select table of Food
insert into Food_order values(16,1,'Rice');
insert into Food_order values(17,2,'Fruites');
insert into Food_order values(18,3,'Vegatables');
insert into Food_order values(19,4,'milk');
insert into Food_order values(20,5,'Juice');
Select * from Food_order;


-- Create table of Food
CREATE TABLE Food
(Food_type VARCHAR2(20),
Food_Price DECIMAL(6,2),
Food_ExpiryD Date,
CONSTRAINT pk_Food PRIMARY KEY (Food_type));

-- Insert and Select table of Food
insert into Food values('Rice','4.30',date'2022-12-30');
insert into Food values('Fruites','3.25',date'2022-11-15');
```

```
insert into Food values('Vegatables','5.50',date'2022-12-05');
insert into Food values('milk','4.45',date'2022-11-30');
insert into Food values('Juice','2.15',date'2022-12-25');
Select * from Food;


-- Create table of Care_order
CREATE TABLE Care_order
(Care_ID INT NOT NULL,
ordder_ID INT NOT NULL,
Care_type VARCHAR2(20),
CONSTRAINT pk_Care_order PRIMARY KEY (Care_ID),
CONSTRAINT fk_order FOREIGN KEY (ordder_ID) REFERENCES ordder (ordder_ID));

-- Insert and Select table of Care_order
insert into Care_order values(21,1,'Face Mask');
insert into Care_order values(22,2,'Cotton Pads');
insert into Care_order values(23,3,'Hand Cream');
insert into Care_order values(24,4,'Deodorant');
insert into Care_order values(25,5,'Hair Conditioner');
Select * from Care_order;


-- Create table of Care
CREATE TABLE Care
(Care_type VARCHAR2(20),
Care_Price DECIMAL(6,2),
Care_ExpiryD DATE,
CONSTRAINT pk_Care PRIMARY KEY (Care_type));

-- Insert and Select table of Care
insert into Care values('Face Mask','4.50',date'2022-12-30');
insert into Care values('Cotton Pads','2.30',date'2026-12-29');
```

```
insert into Care values('Hand Cream','5.80',date'2023-03-25');
insert into Care values('Deodorant','3.40',date'2023-07-15');
insert into Care values('Hair Conditioner','4.30',date'2023-05-28');
Select * from Care;


-- Create Table of Supplier
CREATE TABLE SUPPLIER
(Supplier_ID INT NOT NULL,
ordder_ID INT NOT NULL,
SUPPLIER_name VARCHAR2(10),
SUPPLIER_Country VARCHAR2(30),
CONSTRAINT pk_supplier PRIMARY KEY (Supplier_ID),
CONSTRAINT fk_orderr FOREIGN KEY (ordder_ID) REFERENCES ordder (ordder_ID));

-- Insert and Select Table of Supplier
insert into SUPPLIER values(123,1,'Mohammed','China');
insert into SUPPLIER values(186,2,'Ali','United Emirates');
insert into SUPPLIER values(546,3,'Jack','United Kingdom');
insert into SUPPLIER values(763,4,'Rola','Egybt');
insert into SUPPLIER values(836,5,'Noor','Kuwait');
Select * from SUPPLIER;


-- Create table of Invoice
CREATE TABLE INVOICE
(Invoice_number INT NOT NULL,
ordder_ID INT NOT NULL,
INVOICE_Date DATE,
CONSTRAINT pk_invoice PRIMARY KEY (Invoice_number),
CONSTRAINT fk_ordderr FOREIGN KEY (ordder_ID) REFERENCES ordder (ordder_ID));

-- Insert and Select table of Invoice
```

```
insert into INVOICE values(1,1,date'2022-11-05');
insert into INVOICE values(2,2,date'2022-04-11');
insert into INVOICE values(3,3,date'2022-09-01');
insert into INVOICE values(4,4,date'2022-09-09');
insert into INVOICE values(5,5,date'2022-12-29');
Select * from INVOICE;


-- Create table of Delivery
CREATE TABLE Delivery
(Delivery_ID number(8),
INVOICE_number number(8),
Delivery_Date DATE,
CONSTRAINT pk_Delivery PRIMARY KEY (Delivery_ID),
CONSTRAINT fk_INVOICE FOREIGN KEY (INVOICE_number) REFERENCES INVOICE (INVOICE_number));

-- Insert and Select table of Delivery
insert into Delivery values(60,1,date'2022-11-10');
insert into Delivery values(61,2,date'2022-04-16');
insert into Delivery values(62,3,date'2022-09-06');
insert into Delivery values(63,4,date'2022-09-14');
insert into Delivery values(64,5,date'2022-12-31');
Select * from Delivery;


-- Create table of Employeee
CREATE TABLE Employeee
(Employeee_ID number(8),
Delivery_ID number(8),
CONSTRAINT pk_Employeee PRIMARY KEY (Employeee_ID),
CONSTRAINT fk_Delivery FOREIGN KEY (Delivery_ID) REFERENCES Delivery (Delivery_ID));

-- Insert and Select table of Employee
```

```
insert into Employeee values(1122,60);
insert into Employeee values(1376,61);
insert into Employeee values(1788,62);
insert into Employeee values(1249,63);
insert into Employeee values(2941,64);
Select * from Employeee;


-- Create table of Employee_info
CREATE TABLE Employee_info
(Employeee_ID number(8),
Employee_name VARCHAR2(20),
Employee_phone number(10) ,
CONSTRAINT pk_Employee_info PRIMARY KEY (Employeee_ID));

-- Insert and Select table of Employee_info
insert into Employee_info values(60,'Sara',0554476868);
insert into Employee_info values(61,'Khalid',0549156309);
insert into Employee_info values(62,'Waleed',0557784343);
insert into Employee_info values(63,'Reem',0565687322);
insert into Employee_info values(64,'Ahmed',0535354321);
Select * from Employee_info;



---------------------------------------------------------------------
-- Queries

-- Where
select customer_id,customer_phone from customer where customer_name = 'Sara';
select ordder_id,customer_id from ordder where ordder_date = date'2022-04-11';
```

-- Order by

```
select food_type,ordder_id from food_order order by food_id desc;
```

-- Group by

```
select count(customer_id) as customer ,customer_street from customer_address group by customer_street;
```

-- Aggregate functions

```
select AVG(order_cost) as Cost_Average from ordder;

select MIN(food_price) as Smallest_Price_Food from food;
```

-- Group by and Aggregate functions

```
select min(customer_id) as customer ,customer_street from customer_address group by customer_street;

select max (supplier_id) as supplier_id, supplier_country  from supplier group by supplier_country order by supplier_id;
```

-- Subquery

```
select ordder_date from ordder where ordder_id = any (select ordder_id from ordder where order_cost = 40);
```

--- Join

```
select ordder_ID,order_cost,customer_ID,customer_phone from customer natural JOIN ordder ;

select Delivery_date,invoice_number,employee_phone,employee_name from delivery natural join employee_info where employee_name = 'Sara';
```