



S I G N A T U R E A S S I G N M E N T

Customize Retail Store Management

● Apr 2021

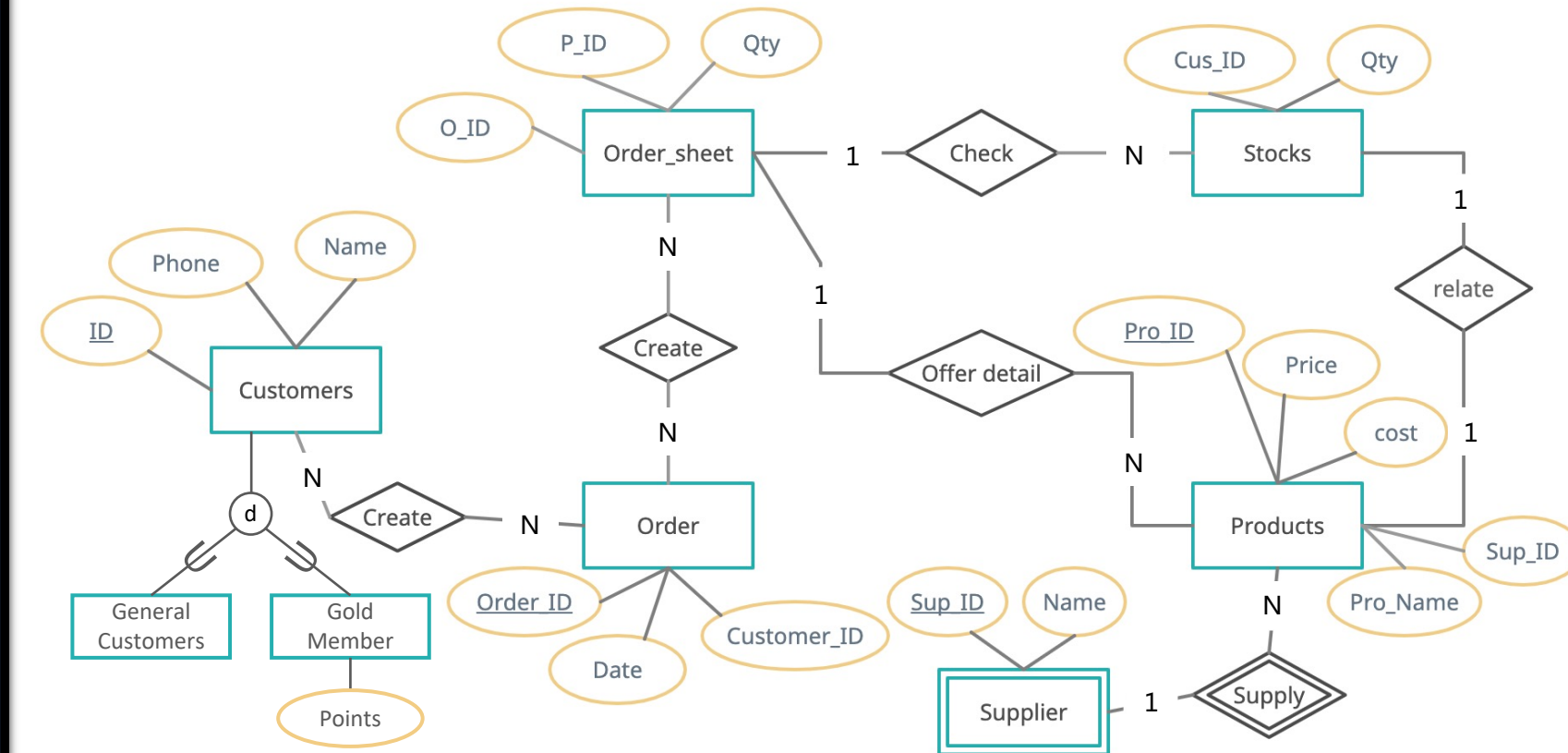
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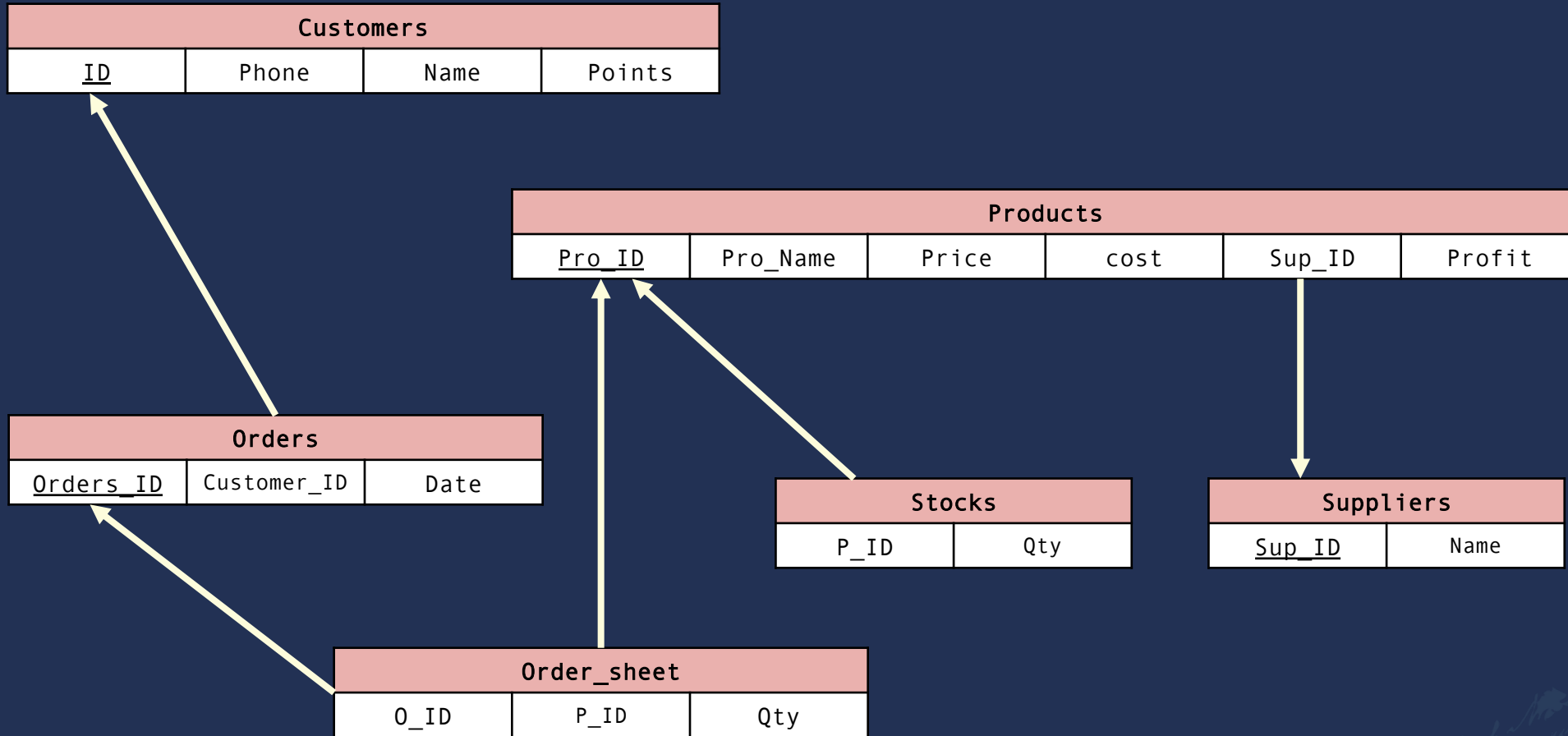
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EER Diagram



Schema Diagram



Data Base

```
create table Customers(ID INT AUTO_INCREMENT, Phone
varchar(15),Name varchar(20),PRIMARY KEY (ID));
select * from Customers;
```

ID	Phone	Name	Points
1	NULL	Anita Hsiao Pei Juan	NULL
2	NULL	He Shu Zhen	NULL
3	NULL	Li Yu	NULL
4	NULL	Juan	NULL
5	NULL	Chun Hui	NULL
6	NULL	Zhao Yi	NULL
7	NULL	Xiao Yu	NULL
8	NULL	Li Bi Zhu	NULL
9	NULL	Li Li Fen	NULL
10	NULL	Lin Si Xin	NULL
11	NULL	Lin Yu Juan	NULL
12	NULL	Lin Yu Xiu	NULL
13	0925-950-631	You Mei Guan	200
14	0918-787-555	Zhang Xiu Min	480

14 rows in set

```
select * from Customers where Points; (Show Gold
Members)
```

ID	Phone	Name	Points
13	0925-950-631	You Mei Guan	200
14	0918-787-555	Zhang Xiu Min	480

2 rows in set

Data Base

```
select Pro_ID,Pro_Name,Price as Price_TWD,cost as cost_TWD, Sup_ID,(Price-cost) as Profit_TWD from Products;
```

Pro_ID	Pro_Name	Price_TWD	cost_TWD	Sup_ID	Profit_TWD
KS0001	Ultra Facial Cream 50 ml	1150	872	1	278
KS0002	Ultra Facial Cream 100 ml	1600	1506	1	94
KS0016	Avocado Eye Cream 15ml	1020	857	1	163
KS0017	Avocado Eye Cream 30ml	1480	1334	1	146
KS0023	Dark Spot Corrector 50ml	2650	2251	1	399
KS0024	Dark Spot Corrector 100ml	4200	3737	1	463
OT0001	L. Erickson Grab & Go Pony Tube 15pcs	880	621	2	259
OT0004	L. Erickson Narrow Grab & Go Pony 12pcs	500	341	2	159
OT0031	NB Ultra Strength Probiotic 10 30Ct	800	468	3	332
OT0033	YL Star RV Rock'n Shine Lipstick	850	779	4	71
TJ0017	TJ Hair Serum Shea Butter 81ml	300	266	5	34
TJ0018	TJ Hair Mask Shea Butter 150ml	360	326	5	34
TJ0064	TJ Melatonin 3mg 100 tablets	400	174	5	226

13 rows in set

Data Base

```
create table Stocks(P_ID varchar(6),Qty integer,FOREIGN KEY (P_ID)
REFERENCES Products(Pro_ID));
select * from Stocks;
```

P_ID	Qty
KS0001	3
KS0002	7
KS0016	40
KS0017	10
KS0023	5
KS0024	3
OT0001	5
OT0004	7
OT0031	1
OT0033	3
TJ0017	5
TJ0018	5
TJ0064	1

13 rows in set

```
table Suppliers (Sup_ID INT AUTO_INCREMENT, Name
varchar(30),PRIMARY KEY(Sup_ID));
select * from Suppliers;
```

Sup_ID	Name
1	KL Shop
2	L. Erickson
3	Walmart
4	YL Shop
5	TJ Shop

5 rows in set

Data Base

```
create table Order_sheet (O_ID integer, P_ID varchar(6), Qty integer,  
FOREIGN KEY (O_ID) REFERENCES Orders(Order_ID),FOREIGN KEY (P_ID)  
REFERENCES Products(Pro_ID));  
select * from Order_sheet;
```

O_ID	P_ID	Qty
4	KS0023	1
5	KS0023	1
6	KS0024	1
7	KS0024	1
8	OT0001	1
9	OT0004	3
10	OT0031	5
11	OT0033	2
11	KS0001	2
12	OT0031	1
12	OT0033	2
12	KS0001	2
13	OT0031	7
13	OT0033	1
13	KS0001	1
14	KS0001	1
18	OT0031	1
19	OT0033	1
20	TJ0018	1

19 rows in set

```
create table Orders(Order_ID INT AUTO_INCREMENT, Customer_ID integer, Date  
varchar(10), foreign key(Customer_ID) references Customers(ID), primary  
key(Order_ID));  
select * from Orders;
```

Order_ID	Customer_ID	Date
4	4	2021-04-08
5	5	2021-04-07
6	6	2021-04-07
7	6	2021-04-07
8	7	2021-04-07
9	7	2021-04-07
10	8	2021-04-07
11	9	2021-04-07
12	10	2021-04-09
13	11	2021-04-09
14	13	2021-04-09
18	13	2021-04-05
19	13	2021-04-07
20	13	2021-04-09

14 rows in set

SQL Commands

1. Show all of the order details.

```
select * from Customers inner
join Orders
on Customers.ID = Orders.Customer_ID
inner join Order_sheet on Orders.Order_ID = Order_sheet.O_ID;
```

ID	Phone	Name	Order_ID	Customer_ID	Date	O_ID	P_ID	Qty
4	NULL	Juan	4	4	2021-04-08	4	KS0023	1
5	NULL	Chun Hui	5	5	2021-04-07	5	KS0023	1
6	NULL	Zhao Yi	6	6	2021-04-07	6	KS0024	1
6	NULL	Zhao Yi	7	6	2021-04-07	7	KS0024	1
7	NULL	Xiao Yu	8	7	2021-04-07	8	OT0001	1
7	NULL	Xiao Yu	9	7	2021-04-07	9	OT0004	3
8	NULL	Li Bi Zhu	10	8	2021-04-07	10	OT0031	5
9	NULL	Li Li Fen	11	9	2021-04-07	11	OT0033	2
9	NULL	Li Li Fen	11	9	2021-04-07	11	KS0001	2
10	NULL	Lin Si Xin	12	10	2021-04-09	12	OT0031	1
10	NULL	Lin Si Xin	12	10	2021-04-09	12	OT0033	2
10	NULL	Lin Si Xin	12	10	2021-04-09	12	KS0001	2
11	NULL	Lin Yu Juan	13	11	2021-04-09	13	OT0031	7
11	NULL	Lin Yu Juan	13	11	2021-04-09	13	OT0033	1
11	NULL	Lin Yu Juan	13	11	2021-04-09	13	KS0001	1
13	0925-950-631	You Mei Guan	14	13	2021-04-09	14	KS0001	1
13	0925-950-631	You Mei Guan	18	13	2021-04-05	18	OT0031	1
13	0925-950-631	You Mei Guan	19	13	2021-04-07	19	OT0033	1
13	0925-950-631	You Mei Guan	20	13	2021-04-09	20	TJ0018	1

19 rows in set (0.001 sec)

SQL Commands

2. Show Customer_ID 13 customer's Order History.

```
select o.Order_ID, o.Date, p.Pro_Name, p.Price, s.Qty, p.Price*s.Qty as Subtotal
from Orders as o, Products as p, Order_sheet as s where o.Customer_ID = 13
and o.Order_ID = s.O_ID and s.P_ID = p.Pro_ID;
```

Order_ID	Date	Pro_Name	Price	Qty	Subtotal
14	2021-04-09	Ultra Facial Cream 50 ml	1150	1	1150
18	2021-04-05	NB Ultra Strength Probiotic 10 30Ct	800	1	800
19	2021-04-07	YL Star RV Rock'n Shine Lipstick	850	1	850
20	2021-04-09	TJ Hair Mask Shea Butter 150ml	360	1	360

4 rows in set

3. Show products selling detail with ID begin with KS.

```
select DISTINCT p.Pro_ID,p.Pro_Name, p.Price, p.cost, (p.Price - p.cost) as Unit_Profit, s.Qty as
Sold_Number,((p.Price - p.cost)*s.Qty) as Total_Profit from Products as p inner join Order_sheet
as s on p.Pro_ID = s.P_ID where p.Pro_ID like 'KS%';
```

Pro_ID	Pro_Name	Price	cost	Unit_Profit	Sold_Number	Total_Profit
KS0001	Ultra Facial Cream 50 ml	1150	872	278	2	556
KS0001	Ultra Facial Cream 50 ml	1150	872	278	1	278
KS0023	Dark Spot Corrector 50ml	2650	2251	399	1	399
KS0024	Dark Spot Corrector 100ml	4200	3737	463	1	463

4 rows in set

SQL Commands

4. Show the highest/lowest unit profit of products.

```
with Price as(select max(Price-cost) best, min(Price-cost) worse from Products) select *,(a.Price-a.cost) as Profit from Products a,Price p where (a.Price-a.cost) = p.best or (a.Price-a.cost) = p.worse;
```

Pro_ID	Pro_Name	Price	cost	Sup_ID	best	worse	Profit
KS0024	Dark Spot Corrector 100ml	4200	3737	1	463	34	463
TJ0017	TJ Hair Serum Shea Butter 81ml	300	266	5	463	34	34
TJ0018	TJ Hair Mask Shea Butter 150ml	360	326	5	463	34	34

3 rows in set

SQL Commands

5. Show profit by products in 2021.

```
select o.Order_ID, p.Pro_ID, p.Price, p.cost, s.Qty,  
(p.Price-p.cost)*s.Qty as Profit from Orders as o,  
Products as p, Order_sheet as s where o.Order_ID =  
s.O_ID and s.P_ID = p.Pro_ID and o.Date  
between '2021-01-01' and '2021-12-31' order by  
o.Order_ID;
```

Order_ID	Pro_ID	Price	Qty	cost	Profit
4	KS0023	2650	1	2251	399
5	KS0023	2650	1	2251	399
6	KS0024	4200	1	3737	463
7	KS0024	4200	1	3737	463
8	OT0001	880	1	621	259
9	OT0004	500	3	341	477
10	OT0031	800	5	468	1660
11	KS0001	1150	2	872	556
11	OT0033	850	2	779	142
12	KS0001	1150	2	872	556
12	OT0033	850	2	779	142
12	OT0031	800	1	468	332
13	KS0001	1150	1	872	278
13	OT0033	850	1	779	71
13	OT0031	800	7	468	2324
14	KS0001	1150	1	872	278
18	OT0031	800	1	468	332
19	OT0033	850	1	779	71
20	TJ0018	360	1	326	34

19 rows in set

6. Show total profit in 2021.

```
with P as (select (p.Price-p.cost)*s.Qty as Profit from  
Order_sheet as s, Products as p, Orders as o where o.Date  
between '2021-01-01' and '2021-12-31' ) select sum(Profit) as  
Total_Profit from P;
```

Total_Profit
93030

1 row in set

SQL Commands

7. Show the products out of stocks.

with O as

```
(select P_ID, sum(Qty) as Qty from Order_sheet group by
P_ID) select O.P_ID as Product_ID,
(S.Qty-O.Qty) as short_number
from O, Stocks as S
where O.P_ID = S.P_ID and (S.Qty-O.Qty) < 0;
```

Product_ID	short_number
KS0001	-3
OT0031	-13
OT0033	-3

3 rows in set

8. Show the most popular product.

```
WITH Q as (select p.Pro_name, s.P_ID, sum(s.Qty) as Ordered_Qty from
Order_sheet s, Products p where p.Pro_ID = s.P_ID group by s.P_ID), W as
(select max(Ordered_Qty) as Ordered_Qty from Q) select Q.P_ID as
Product_ID, Q.Pro_name as Most_Popualr_Product_Name, Q.Ordered_Qty from
Q, W where Q.Ordered_Qty = W.Ordered_Qty;
```

Product_ID	Most_Popualr_Product_Name	Ordered_Qty
OT0031	NB Ultra Strength Probiotic 10 30Ct	14

1 row in

9. Show the total order among by customers.

```
select c.Name, sum(p.Price) as Order_amount
from Customers c inner join Orders o on c.ID =
o.Customer_ID inner join Order_sheet s on
o.Order_ID = s.O_ID inner join Products p on
p.Pro_ID = s.P_ID group by Customer_ID order
by sum(p.Price) desc;
```

Name	Order_amount
Zhao Yi	8400
You Mei Guan	3160
Lin Si Xin	2800
Lin Yu Juan	2800
Juan	2650
Chun Hui	2650
Li Li Fen	2000
Xiao Yu	1380
Li Bi Zhu	800

9 rows in set



T h a n k s f o r y o u r a t t e n t i o n

Q & A

● Apr 2021

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