Project Report

Phase 2: From Design to Implementation

ITCS241 Database Management Systems

by

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Presented to

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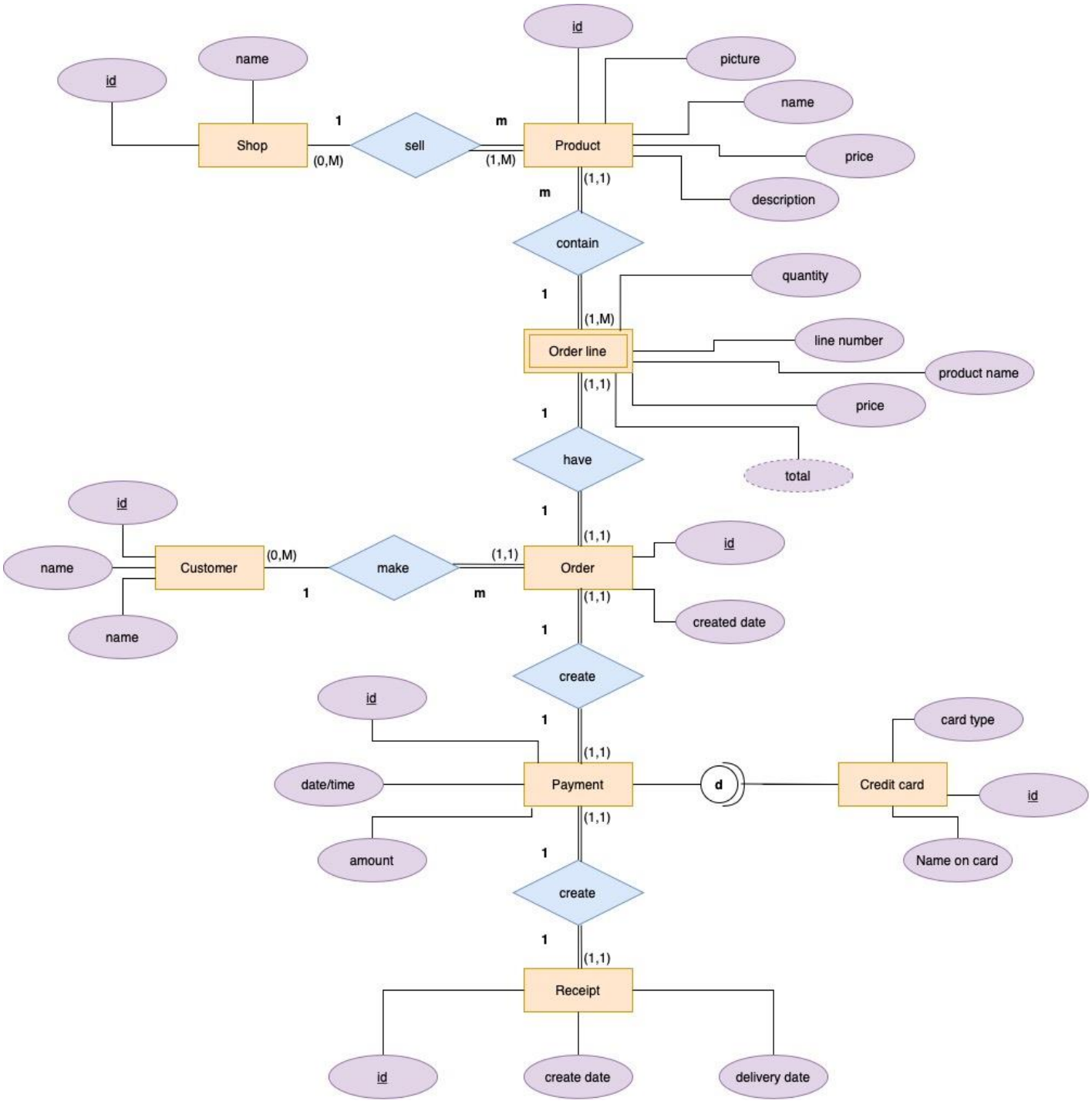
Revised ERD


id
name
id
Shop
1
(0,M)
sell
m
(1,M)
Product
picture
name
price
description
(1,1)
m
contain
1
quantity
(1,M)
Order line
line number
product name
price
total
(1,1)
1
have
1
(1,1)
id
Order
(1,1)
m
(1,1)
created date
1
create
id
name
Customer
(0,M)
1
make
id
name
1
(1,1)
(1,1)
date/time
Payment
d
Credit card
card type
id
Name on card
amount
(1,1)
1
create
1
(1,1)
Receipt
id
create date
delivery date

8-Steps to transform ERD to relational schema

1. Transform regular entity.

Shop

Shop_id	Shop_name

Product

P_id	P_name	P_price	P_description	P_picture

Order

Order_id	Order_createdDate

Customer

Cus_id	Cus_fname	Cus_lname

Receipt

Rec_id	Rec_createdDate	Rec_deliveryDate

2. Transform weak entity.

Order line

OL_quantity	OL_no	OL_productName	OL_price

3. 1 : 1

Order

Order_id	Order_createdDate

Payment

Pay_id	Pay_datetime	Pay_amount	Or_id

Receipt

Rec_id	Rec_createdDate	Rec_deliveryDate	Pay_id

4. 1 : N

Shop

Shop_id	Shop_name

Product

P_id	P_name	P_price	P_description	P_picture	S_id

Customer

Cus_id	Cus_fname	Cus_lname

Order

Order_id	Order_createdDate	C_id

5. M : N

6. Muti-valued

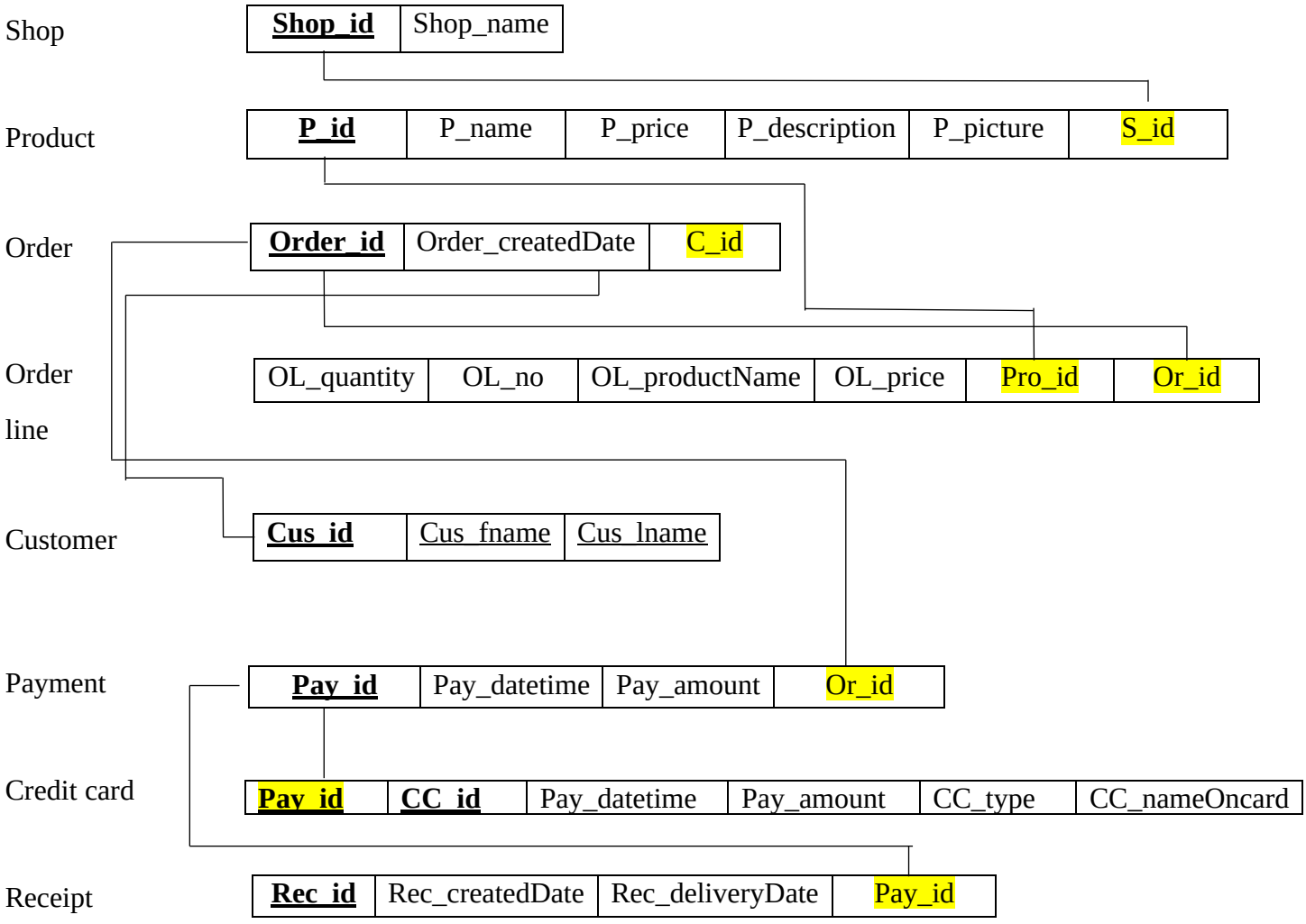
7. N-ary

8. Specialization

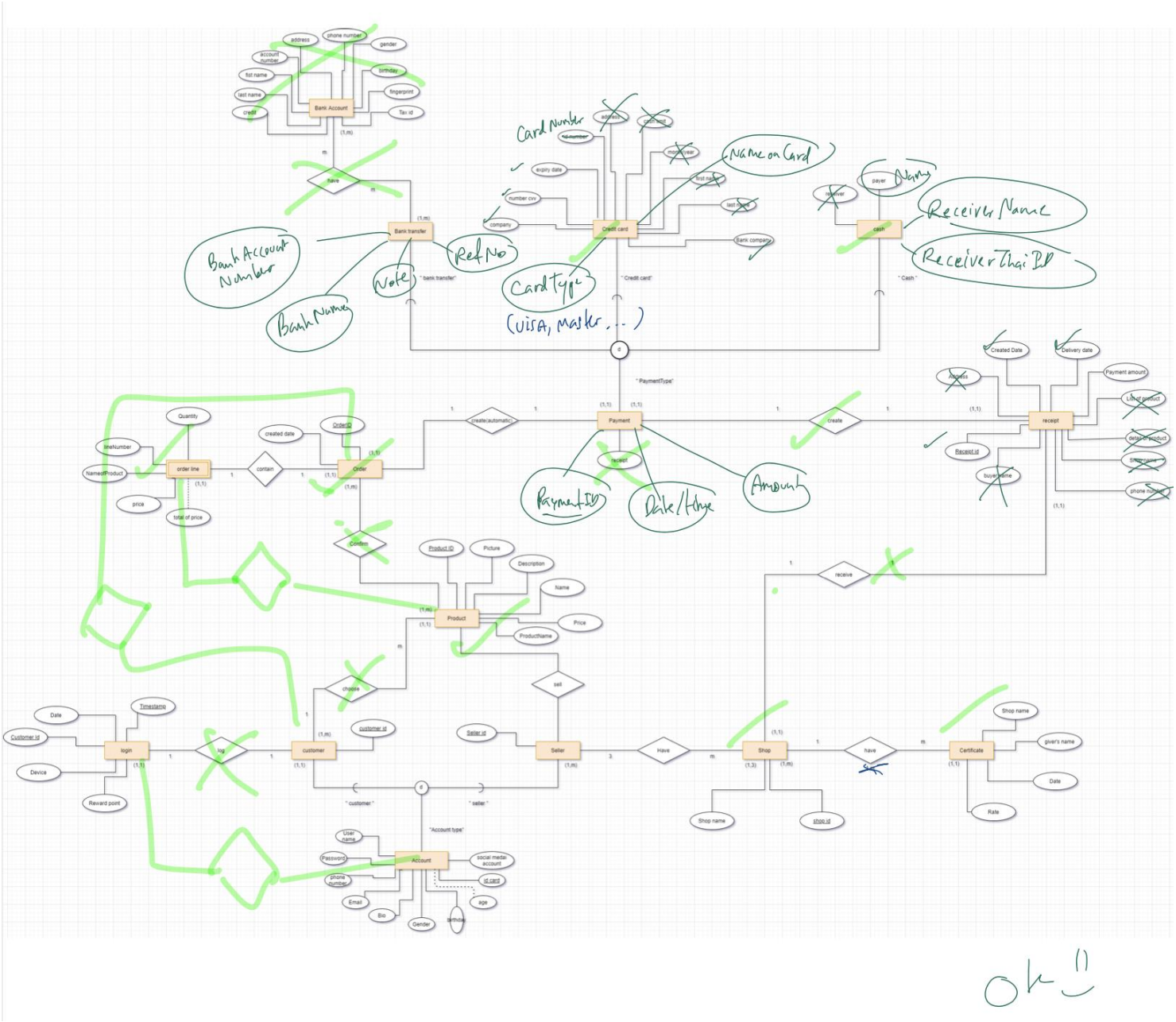
Credit card

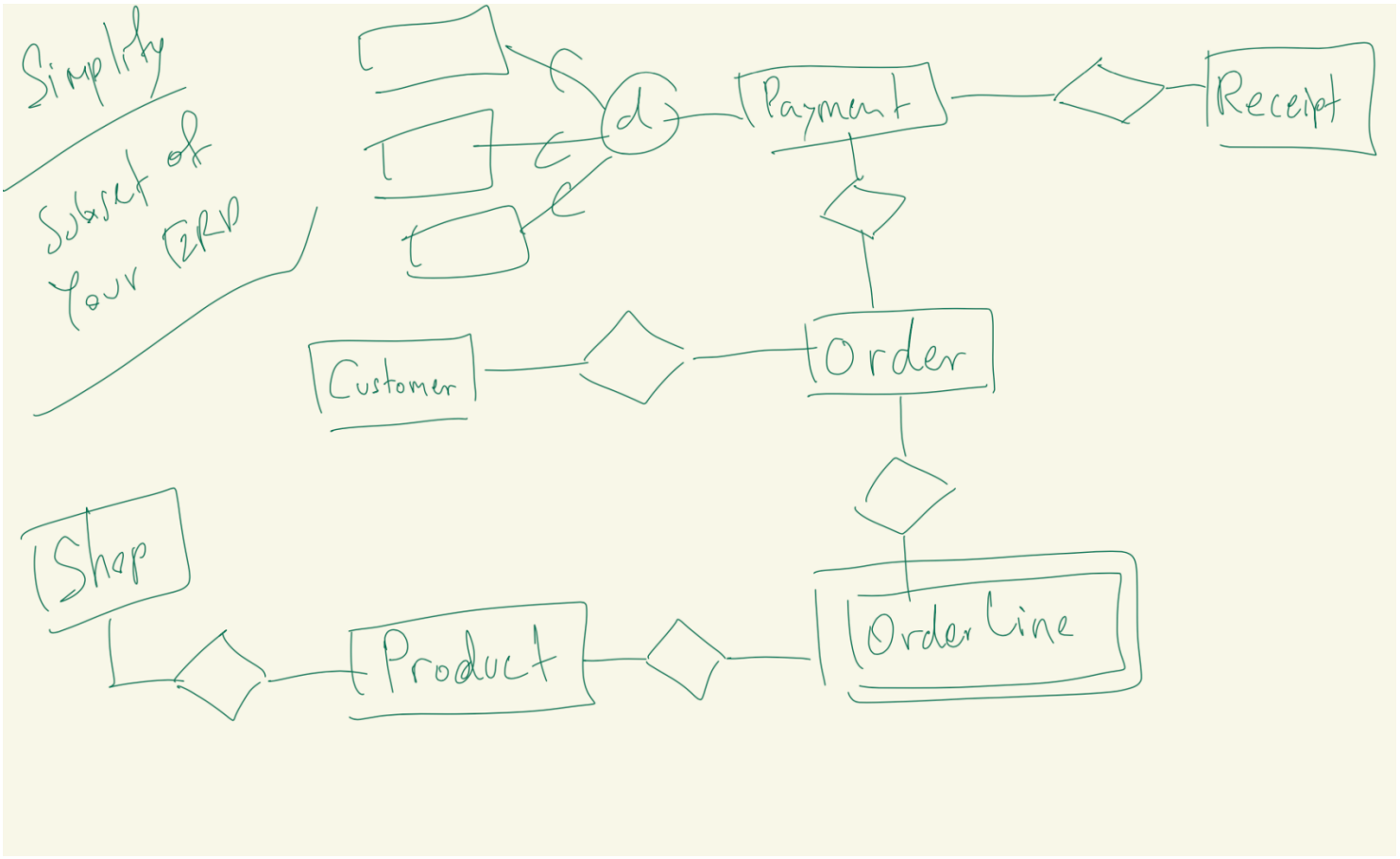
Pay_id	**CC_id**	Pay_datetime	Pay_amount	CC_type	CC_nameOncard

The final relational schema



References


Bank Account
Bank transfer
Credit card
cash
Payment
receipt
order line
Order
Product
login
customer
Seller
Shop
Certificate
Account
Card Number
Name on Card
Receiver Name
Receiver Thai ID
Bank Account Number
Bank Name
Ref No
Note
Card type
(visa, master, ..)
Payment ID
Date/time
Amount
" bank transfer"
" Credit card"
" Cash "
" PaymentType"
" customer "
" seller "
"Account type"
Ok!!


Simplify
Subset of
Your ERD
d
Payment
Receipt
Customer
Order
Shop
Product
Order Line

Data Dictionary

Table name	Attribute name	Contents	Type	Format	Null Able	Range	Key	Fk Ref. Table
shop	shop_ID	shop's id	varchar(9)	xxxxxxxxx			PK	
	shop_name	shop's name	varchar(100)	Xxxxxx				
product	prod_ID	product's id	varchar(9)	xxxxxxxxx			PK	
	prod_name	product's name	varchar(100)	Xxxxxx				
	prod_price	product's price	decimal(10,2)	123456789.00				
	prod_des	product's description	varchar(100)	xxxxxxx	Y			
	prod_type	product's type	varchar(100)	xxxxxxx				
	shop_ID	shop's id	varchar(9)	xxxxxxxxx			FK	shop_id[Shop]
_order	order_id	Order's id	varchar(9)	xxxxxxxxx			PK	
	order_createdDate	Order's createdDate	date	yyyy-mm-dd				
	customer_id	Customer's id	varchar(9)	xxxxxxxxx			FK	Cus_id[Customer]
_orderLine	OL_quantity	Order line quantity	int	xx				
	OL_no	Order line number	int	x				
	OL_price	Product's price	decimal(10,2)	123456789.00				
	OL_productName	Order's productName	varchar(100)	xxxxxxxxx				
	prod_ID	Product's id	varchar(9)	xxxxxxxxx			FK	P_id[Product]
	order_ID	Order's id	int	xxxxxxxxx			FK	Order_id[Order]
Customer	customer_ID	Customer's id	varchar(9)	xxxxxxxxx			PK	
	customer_fname	Customer's firstname	varchar(100)	xxxxxxxxx				
	customer_lname	Customer's lastname	varchar(100)	xxxxxxxxx				
Payment	pay_ID	Payment's id for payment	varchar(9)	xxxxxxxxx			PK	
	pay_datetime	Payment date/time	datetime	yyyy-mm-dd hh:mm:ss				
	pay_amount	amount	decimal(10,2)	123456789.00				
	order_ID	Order's id	varchar(10)	xxxxxxxxx			FK	Order_id[Order]
Credit card	pay_ID	Payment's id for credit card	int	xxxxxxxxx			PK	
	CC_ID	Credit card's id	int	xxxxxxxxx			PK	
	pay_datetime	Payment date/time	datetime	yyyy-mm-dd hh:mm:ss				
	pay_amount	amount	decimal(10,2)	123456789.OO				
	CC_type	card type	varchar(4)	XXXX		VISA,MSTC		
	serial_number	name whos own this card	varchar(10)	xxxxxxxxx				
Receipt	rec_ID	Receipt's id	int	xxxxxxxxx			PK	
	rec_createdDate	created date	datetime	yyyy-mm-dd hh:mm:ss				
	rec_deliveryDate	delivery date	date	yyyy-mm-dd				
	pay_ID	Payment's id	varchar(9)	xxxxxxxxx			FK	Pay_id[Payment]

Queries

Basic

#Q1 Show all customer information.

```
SELECT * FROM customer;
```

customer_ID	customer_fname	customer_lname
62001	Pranungfun	Prapaenee
62002	Nopparat	Pengsuk
62003	Pongsakorn	Piboonpongpun
62004	Numjoon	Kim
62005	Seokjin	Kim
62006	Yoonki	Min
62007	Hoseok	Jung
62008	Jimin	Park
62009	Taehyung	Kim
62010	Jungkook	Jeon
62011	Izuku	Midoriya
62012	Shoto	Todoroki
62013	Bakugo	Katsuki
62014	Kirishima	Eijiro
62015	Denki	Kaminari
62016	Eren	Yeager
62017	Mikasa	Ackerman
62018	Levi	Ackerman
62019	Shoyo	Hinata
62020	Tooru	Oikawa
62021	Tobio	Kageyama
62022	Kazuto	Kirigaya
62023	Tanjiro	Kamado
62024	Nezuko	Kamado
62025	Zenitsu	Agatsuma
62026	Yuu	Nishinoya
62027	Koshi	Sugawara
62028	Kei	Tsukishima
62029	Jipyeong	Han
62030	Dalmi	Seo

#Q2 Show product ID, product name, and product price that have price more than 500 Baht.

```
SELECT prod_id, prod_name, prod_price FROM product
WHERE prod_price > 500;
```

prod_id	prod_name	prod_price
00006	sofa so good	3200.00
00007	wood	700.00
00015	black sword	1200.00
00017	BE Album	550.00
00021	headphone	1000.00
00022	messenger bag	599.00
00026	asus laptop	29000.00
00027	macbook laptop	69000.00
00034	Wardrobe	3300.00
00039	eugeo sword	1400.00
00041	love yourself A...	550.00
00044	headphone wir...	1500.00
00045	freitag bag	1599.00
00048	asus mouse	800.00

#Q3 show productID, product name that begin with 'b'.

```
SELECT prod_id, prod_name FROM product
WHERE prod_name LIKE 'b%';
```

prod_id	prod_name
00001	brownie
00005	brownie baby
00010	bomb doll
00013	baby crystal
00015	black sword
00017	BE Album
00029	bath bomb
00038	beach photo
00040	butterfly keyboard

#Q4 show shop information that begin with m and sort by alphabet.

```
SELECT * FROM shop
WHERE shop_name LIKE 'm%'
ORDER BY shop_name;
```

shop_ID	shop_name
88027	macbook dee
88030	mai tum ngan gaming
88002	Mark bakery
88021	mark sonie
88012	markki photo
88023	mupa tshirt

#Q5 show customer first name and last name that begin with 'p'.

```
SELECT customer_fname, customer_lname FROM customer
WHERE customer_lname LIKE 'p%';
```

customer_fname	customer_lname
Pranungfun	Prapaenee
Nopparat	Pengsuk
Pongsakorn	Piboonpongpun
Jimin	Park

#Q6 show payment ID, create date, delivery date from receipt which ID is higher than 5000.

```
SELECT pay_id, rec_createdDate, rec_deliveryDate FROM receipt
WHERE rec_id > 5000;
```

pay_id	rec_createdDate	rec_deliveryDate
1251	2020-11-06 05:56:00	2020-11-09
1247	2020-10-30 01:01:00	2020-11-08
1237	2020-10-24 07:53:00	2020-11-05
1243	2020-10-28 06:34:00	2020-11-07
1250	2020-11-05 04:00:00	2020-11-08
1242	2020-10-27 05:12:00	2020-11-06
1248	2020-10-30 03:05:00	2020-11-08
1254	2020-11-11 02:07:00	2020-11-11
1259	2020-11-11 04:03:00	2020-11-11
1259	2020-11-11 04:03:00	2020-11-11
1236	2020-10-23 05:31:00	2020-11-05
1234	2020-10-23 02:33:00	2020-11-04
1255	2020-11-11 06:45:00	2020-11-11
1245	2020-10-30 04:56:00	2020-11-08
1253	2020-11-11 05:06:00	2020-11-11
1246	2020-10-30 02:32:00	2020-11-08
1258	2020-11-11 03:12:00	2020-11-11
1260	2020-11-11 05:01:00	2020-11-11

#Q7 show product information where type is dessert.

```
SELECT * FROM product
WHERE prod_type LIKE "dessert";
```

prod_ID	prod_name	prod_price	prod_des	prod_type	shop_id
00001	brownie	20.00	aroi makk	dessert	88001
00002	cheese cake	50.00	must try	dessert	88002
00003	tiramisu cake	85.00	NULL	dessert	88003
00004	strawberry daifuku	80.00	NULL	dessert	88004
00005	brownie baby	30.00	NULL	dessert	88005
00031	strawberry pie	30.00	NULL	dessert	88001
00032	cheese cake	50.00	must try	dessert	88002
00033	apple pie	50.00	NULL	dessert	88002
00055	chocolate cake	100.00	NULL	dessert	88002

#Q8 show customer first name and last name sort by first name and follow by last name in alphabet.

```
SELECT customer_fname, customer_lname FROM customer
ORDER BY customer_fname, customer_lname;
```

customer_fname	customer_lname
Bakugo	Katsuki
Dalmi	Seo
Denki	Kaminari
Eren	Yeager
Hoseok	Jung
Izuku	Midoriya
Jimin	Park
Jipyeong	Han
Jungkook	Jeon
Kazuto	Kirigaya
Kei	Tsukishima
Kirishima	Eijiro
Koshi	Sugawara
Levi	Ackerman
Mikasa	Ackerman
Nezuko	Kamado
Nopparat	Pengsuk
Numjoon	Kim
Pongsakorn	Piboonpongpun
Pranungfun	Prapaenee
Seokjin	Kim
Shoto	Todoroki
Shoyo	Hinata
Taehyung	Kim
Tanjiro	Kamado
Tobio	Kageyama
Tooru	Oikawa
Yoonki	Min
Yuu	Nishinoya
Zenitsu	Agatsuma

#Q9 show order ID and payment amount where payment amount is more than 1000 baht.

```
SELECT or_id, pay_id FROM payment
WHERE pay_amount > 1000;
```

or_id	pay_id
1003	1233
1004	1234
1014	1244
1022	1252
1025	1255
1027	1257
1029	1259

#Q10 show product name and product price which price is higher than 500 Baht and sort by price.

```
SELECT prod_name, prod_price FROM product
WHERE prod_price > 500
ORDER BY prod_price;
```

prod_name	prod_price
BE Album	550.00
love yourself Album	550.00
messenger bag	599.00
wood	700.00
asus mouse	800.00
headphone	1000.00
black sword	1200.00
eugeo sword	1400.00
headphone wireless	1500.00
freitag bag	1599.00
razor mouse	1800.00
sofa so good	3200.00
Wardrobe	3300.00
asus laptop	29000.00
macbook air	69000.00
macbook pro	79000.00

#Q11 count how many products have in database.

```
SELECT COUNT(*) as count FROM p  roduct;
```

count
54

#Q12 show the average price of product type is dessert.

```
SELECT AVG(prod_price) as average FROM product;
```

average
3741.481481

#Q13 show product information where product description is not null.

```
SELECT * FROM product
WHERE  prod_des IS NOT NULL;
```

prod_ID	prod_name	prod_price	prod_des	prod_picture	shop_id
00001	brownie	20	aroi makk	dessert	88001
00002	cheese cake	50	must try	dessert	88002
00003	tiramisu cake	85		dessert	88003
00004	strawberry daifuku	80		dessert	88004
00005	brownie baby	30		dessert	88005
00006	sofa so good	3200			88006
00007	wood	700			88007
00008	keyboard	159			88008
00009	minibag	120			88009
00010	bomb doll	290			88010
00011	fuji film iso 200	250			88011
00012		100			88012
00013		100			88013
00014	DYNAMITE	490	prod by…		88014
00015		100			88015
00016	RGB keyboard	390			88016
00017		100			88017
00018	mini dress	290			88018
00019	noodle	15			88019
00020	iPad pro case	150	11 inches		88020
00021	headphone	1000			88021
00022	messenger bag	599			88022
00023	tshirt	150	pink		88023
00024	sport shoes	299	sport		88024
00025		100			88025
00026	asus laptop	29000			88026
00027	macbook laptop	69000	13 inches		88027
00028	lipstick	290			88028
00029	bath bomb	120			88029
00030	mouse gaming	320			88030
00041	lipstick	290	It is so g…		88028
NULL	NULL	NULL	NULL	NULL	NULL

#Q14 show the most expensive product.

```
SELECT MAX(prod_price) as max FROM product;
```

max
79000.00

#Q15 show the receipt that was created before 2020-11-10.

```
SELECT * FROM receipt
WHERE date(rec_createdDate) < "2020-11-10";
```

rec_id	rec_createdDate	rec_deliveryDate	pay_id
847	2020-11-05 04:08:00	2020-11-08	1249
976	2020-11-07 03:07:00	2020-11-10	1256
987	2020-11-03 03:36:00	2020-11-06	1239
1658	2020-11-07 01:08:00	2020-11-10	1257
2345	2020-11-01 03:23:00	2020-11-04	1235
2349	2020-11-01 00:18:00	2020-11-04	1231
3451	2020-11-01 07:34:00	2020-11-04	1232
3454	2020-11-03 02:50:00	2020-11-06	1238
4254	2020-11-03 04:54:00	2020-11-06	1241
4366	2020-11-04 03:12:00	2020-11-07	1244
4562	2020-11-03 01:23:00	2020-11-06	1240
4567	2020-11-01 06:42:00	2020-11-04	1233
4568	2020-11-07 06:01:00	2020-11-10	1252
5282	2020-11-06 05:56:00	2020-11-09	1251
5353	2020-11-05 01:01:00	2020-11-08	1247
5432	2020-11-02 07:53:00	2020-11-05	1237
5476	2020-11-04 06:34:00	2020-11-07	1243
5656	2020-11-05 04:00:00	2020-11-08	1250
6315	2020-11-03 05:12:00	2020-11-06	1242
6343	2020-11-05 03:05:00	2020-11-08	1248
6452	2020-11-07 02:07:00	2020-11-10	1254
7303	2020-11-07 04:03:00	2020-11-10	1259
7304	2020-11-07 04:03:00	2020-11-10	1259
7651	2020-11-02 05:31:00	2020-11-05	1236
8230	2020-11-01 02:33:00	2020-11-04	1234
8440	2020-11-07 06:45:00	2020-11-10	1255
9305	2020-11-05 04:56:00	2020-11-08	1245
9373	2020-11-07 05:06:00	2020-11-10	1253
9474	2020-11-05 02:32:00	2020-11-08	1246
9475	2020-11-07 03:12:00	2020-11-10	1258
9999	2020-11-08 05:01:00	2020-11-11	1260
NULL	NULL	NULL	NULL

Advanced

#Q16 show infomation of product which is have highest price.

```
SELECT * FROM product
WHERE prod_price = (SELECT MAX(prod_price) FROM product);
```

prod_ID	prod_name	prod_price	prod_des	prod_type	shop_id
00049	macbook pro	79000.00	15 inches	electronic	88027

#Q17 find order that have quantity more than 2.

```
SELECT order_ID FROM _order
WHERE order_ID IN (select order_ID FROM _orderline WHERE OL_quantity > 2);
```

order_id
1004
1008
1017
1019
1030

#Q18 count how many brownies was bought.

```
SELECT COUNT(*) AS count FROM _orderline
WHERE pro_id IN (SELECT prod_id FROM product WHERE prod_name = "brownie");
```

count
3

#Q19 show paymentID and name on card that use VISA **serial number.**

```
SELECT p.pay_id,c.serial_number FROM payment AS p
JOIN credit_card AS c  ON p.pay_id = c.pay_id
WHERE cc_type = "VISA";
```

pay_id	serial_number
1231	1212312121
1232	3456789456
1236	6392774036
1238	4235246490
1240	0364763745
1241	5374563737
1242	2345123870
1244	2349876534
1245	2456374955
1247	5649477432
1248	0987654234
1251	6573433466
1253	5474537353
1256	6782349834
1258	7895437448
1261	0985623872

#Q20 show shop name, product name, product price, and product id with product name is cheese cake (Hints: remove duplicate shop).

```
SELECT DISTINCT s.shop_name, p.prod_name, p.prod_price, p.prod_price FROM product AS p
JOIN shop AS s ON s.shop_id =  p.shop_id
WHERE p.prod_name = "cheese cake";
```

shop_name	prod_name	prod_price	prod_price
Mark bakery	cheese cake	50	50

#Q21 count how many orders was ordered in September name as "order_sep".

```
SELECT COUNT(*) AS order_sep FROM _order
WHERE MONTH(order_createDate) = 11;
```

order_sep
30

#Q22 list the richest customer. (tops 5 who have highest payment).

```
SELECT c.customer_id, CONCAT(c.customer_fname,' ',c.customer_lname) AS 'cus name', p.pay_amount  FROM customer AS c
JOIN _order AS o ON o.customer_id = c.customer_id
JOIN payment AS p ON o.order_ID = p.Or_id
ORDER BY p.pay_amount DESC
LIMIT 5;
```

customer_id	cus name	pay_amount
62028	Kei Tsukishima	5000.00
62026	Yuu Nishinoya	3200.00
62015	Denki Kaminari	1600.00
62023	Tanjiro Kamado	1200.00
62010	Jungkook Jeon	1000.00

#Q23 show order that was made by customer name start with "P".

```
SELECT o.order_ID, o.order_createDate  FROM _order AS o
WHERE o.customer_ID IN (SELECT customer_id FROM customer WHERE customer_fname LIKE "P%");
```

order_ID	order_createDate
1001	2020-11-01
1003	2020-11-01
1010	2020-11-03
1011	2020-11-03
1028	2020-11-11

#Q24 show how many each shop sells a product.

```
SELECT s.shop_name AS "shop name", COUNT(p.prod_id) AS 'products amount' FROM product AS p
JOIN shop AS s ON s.shop_id = p.shop_id
GROUP BY s.shop_name;
```

shop name	products amount
sheek bakery	1
Mark bakery	1
Pixelizu	1
deku daifuku	1
baby brownie	1
toppy furniture	1
pongsakorn khai mhai	1
sampromtech	1
noeyiii bag	1
bakugo toy	1
pranung film	1
markki photo	1
babycrystal plant	1
jungkook CD	1
kirito sword	1
keyboard oreo	1
BTS preoder	1
eigth teen dress	1
prom noodle	1
ipad case	1
mark sonie	1
konkeng bag	1
mupa tshirt	1
nhai khee shoes	1
adidatttt shoes	1
asus kak	1
macbook dee	1
ping cosmetic	2
bodyandbath	1
mai tum ngan gaming	1

prod_id	shop name	price
00001	sheek bakery	20
00002	Mark bakery	50
00003	Pixelizu	85
00004	deku daifuku	80
00005	baby brownie	30
00006	toppy furniture	3200
00007	pongsakorn khai mhai	700
00008	sampromtech	159
00009	noeyiii bag	120
00010	bakugo toy	290
00011	pranung film	250
00012	markki photo	100
00013	babycrystal plant	100
00014	jungkook CD	490
00015	kirito sword	100
00016	keyboard oreo	390
00017	BTS preoder	100
00018	eigth teen dress	290
00019	prom noodle	15
00020	ipad case	150
00021	mark sonie	1000
00022	konkeng bag	599
00023	mupa tshirt	150
00024	nhai khee shoes	299
00025	adidatttt shoes	100
00026	asus kak	29000
00027	macbook dee	69000
00028	ping cosmetic	290
00041	ping cosmetic	290
00029	bodyandbath	120
00030	mai tum ngan gaming	320

#Q25 create view that show shop name and product in their shop.

```
CREATE VIEW vw_productandshop
AS
SELECT p.prod_id, s.shop_name AS "shop name", p.prod_price AS "price" FROM product AS p
JOIN shop AS s ON s.shop_id = p.shop_id;
SELECT * FROM vw_productandshop;
```

prod_id	shop name	price
00001	sheek bakery	20.00
00002	Mark bakery	50.00
00003	Pixelizu	85.00
00004	deku daifuku	80.00
00005	baby brownie	30.00
00006	toppy furniture	3200.00
00007	pongsakorn khai mhai	700.00
00008	sampromtech	159.00
00009	noeyiii bag	120.00
00010	bakugo toy	290.00
00011	pranung film	250.00
00012	markki photo	50.00
00013	babycrystal plant	5.00
00014	jungkook CD	490.00
00015	kirito sword	1200.00
00016	keyboard oreo	390.00
00017	BTS preoder	550.00
00018	eigth teen dress	290.00
00019	prom noodle	15.00
00020	ipad case	150.00
00021	mark sonie	1000.00
00022	konkeng bag	599.00
00023	mupa tshirt	150.00
00024	nhai khee shoes	299.00
00025	adidatttt shoes	100.00
00026	asus kak	29000.00
00027	macbook dee	69000.00
00028	ping cosmetic	290.00
00029	bodyandbath	120.00
00030	mai tum ngan gaming	320.00
00031	sheek bakery	30.00
00032	Mark bakery	50.00
00033	Mark bakery	50.00
00034	toppy furniture	3300.00
00035	sampromtech	260.00
00036	pranung film	250.00
00037	pranung film	350.00
00038	markki photo	50.00
00039	kirito sword	1400.00
00040	keyboard oreo	390.00
00041	BTS preoder	550.00
00042	eigth teen dress	290.00
00043	ipad case	150.00
00044	mark sonie	1500.00
00045	konkeng bag	1599.00
00046	mupa tshirt	150.00
00047	nhai khee shoes	299.00
00048	asus kak	800.00
00049	macbook dee	79000.00
00050	ping cosmetic	290.00
00051	bodyandbath	130.00
00052	mai tum ngan gaming	1800.00
00053	pranung film	250.00
00055	Mark bakery	100.00

#Q26 show shops that have the product type is dessert and order alphabet.

```
SELECT s.shop_name AS "Shop Name", p.prod_name AS "Product Name", p.prod_type AS "Product Type"
FROM shop s
JOIN product p ON p.shop_id = s.shop_id
WHERE p.prod_type LIKE 'dessert'
GROUP BY p.prod_name
ORDER BY s.shop_name ASC;
```

Shop Name	Product Name	Product Type
baby brownie	brownie baby	dessert
deku daifuku	strawberry daifuku	dessert
Mark bakery	cheese cake	dessert
Mark bakery	apple pie	dessert
Mark bakery	chocolate cake	dessert
Pixelizu	tiramisu cake	dessert
sheek bakery	brownie	dessert
sheek bakery	strawberry pie	dessert

#Q27 count how many orders was ordered on month 11 day 11.

```
SELECT COUNT(*) FROM _order
WHERE DAY(order_createDate) = 11 AND MONTH(order_createDate) = 11;
```

COUNT(*)
3

#Q28 find the maximum product on the database.

```
SELECT prod_name ,MAX(prod_price) as max FROM product
where prod_price = (select max(prod_price) from product)
```

prod_name	max
macbook pro	79000.00

#Q29 find shop and price that has the max value of a product is electronic type.

```
SELECT s.shop_name AS "Shop name", MAX(prod_price) AS "MAX"
FROM product
JOIN shop s ON s.shop_id = product.shop_id
WHERE prod_type LIKE 'electronic';
```

Shop name	MAX
sampromtech	79000.00

#Q30 find the min value of product that pay by MSTC.

```
SELECT prod_name, MIN(prod_price) AS "MIN VALUE PRODUCT"
FROM product p
JOIN _orderLine ordL ON ordL.Pro_id = p.prod_ID
JOIN payment pa ON pa.Or_id = ordL.Or_id
JOIN Credit_card c ON c.pay_id = pa.pay_id
WHERE c.cc_type LIKE 'MSTC';
```

prod_name	MIN VALUE PRODUCT
strawberry pie	5.00