SQL CASE PROBLEMS

PART- 4

By Nawazish Khan

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Creating Table

```
-- Creating Schema
create schema market_star_schema;

-- create table
use market_star_schema;
```

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Creating Customer Table

```
CREATE TABLE `cust_dimen` (
  `Cust_id` varchar(12) NOT NULL,
  `Customer_Name` varchar(25) DEFAULT NULL,
  `City` varchar(12) DEFAULT NULL,
  `State` varchar(12) DEFAULT NULL,
  `Customer_Segment` varchar(25) DEFAULT
NULL,
  PRIMARY KEY (`Cust_id`)
);
```

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Creating Shipping Table

```
CREATE TABLE `shipping_dimen` (
  `Ship_id` varchar(12) NOT NULL,
  `Order_Number` int(11) NOT NULL,
  `Ship_Mode` varchar(25) DEFAULT NULL,
  `Ship_Date` date DEFAULT NULL,
  PRIMARY KEY (`Ship_id`)
);
```

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Creating Orders Table

```
CREATE TABLE `orders_dimen` (
  `Ord_id` varchar(12) NOT NULL,
  `Order_Number` int(11) NOT NULL,
  `Order_Date` date DEFAULT NULL,
  `Order_Priority` varchar(25) DEFAULT NULL,
  PRIMARY KEY (`Ord_id`),
  KEY `Order_Number_index` (`Order_Number`)
);
```

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Creating Market fact table

```
CREATE TABLE `market_fact_full` (
  `Market_fact_id` int(11) NOT NULL,
  `Ord_id` varchar(12) DEFAULT NULL,
  `Prod_id` varchar(12) DEFAULT NULL,
  `Ship_id` varchar(12) DEFAULT NULL,
  `Cust_id` varchar(12) DEFAULT NULL,
  `Sales` decimal(65,30) DEFAULT NULL,
  `Discount` decimal(12,2) DEFAULT NULL,
  `Order_Quantity` int(11) NOT NULL,
  `Profit` decimal(12,2) DEFAULT NULL,
  `Shipping_Cost` decimal(12,2) DEFAULT NULL,
  `Product_Base_Margin` decimal(12,2) DEFAULT NULL,
  PRIMARY KEY (`Market_fact_id`),
  KEY `Order_Quantity_index` (`Order_Quantity`),
  KEY `Ship_Id_idx` (`Ship_id`),
  CONSTRAINT `Cust_Id` FOREIGN KEY (`Cust_id`)
REFERENCES `cust_dimen` (`Cust_id`)
);
```

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Inserting records.

```
INSERT INTO `cust_dimen` VALUES
('Cust_1','MUHAMMED
MACINTYRE','Kolkata','West Bengal','SMALL
BUSINESS'),...

INSERT INTO `market_fact_full` VALUES
(1,'Ord_5446','Prod_16','SHP_7609',
'Cust_1818',136.810, 0.01, 23, -30.51, 3.60,
0.56) ,...

INSERT INTO `orders_dimen` VALUES
('Ord_1',3,'2010-10-13','LOW'),...
```

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Problem: 1

Print the product categories and subcategories along with the profits made for each order.

```
select product_category,
product_sub_category, profit from
prod_dimen p inner join market_fact_full
m on p.Prod_id = m.Prod_id ;
```

	product_category	product_sub_category	profit
▶	OFFICE SUPPLIES	SCISSORS, RULERS AND TRIMMERS	-30.51
	OFFICE SUPPLIES	PENS & ART SUPPLIES	4.56
	TECHNOLOGY	TELEPHONES AND COMMUNICATION	1148.90
	OFFICE SUPPLIES	PAPER	729.34
	TECHNOLOGY	OFFICE MACHINES	1219.87
	OFFICE SUPPLIES	PAPER	-47.64
	OFFICE SUPPLIES	LABELS	1.32
	TECHNOLOGY	TELEPHONES AND COMMUNICATION	1137.91

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Problem: 2

Find the shipment date, mode and profit made for every single order.

```
select ord_id, ship_date, ship_mode,
profit from market_fact_full m inner join
shipping_dimen s on m.Ship_id =
s.Ship_id;
```

	ord_id	ship_date	ship_mode	profit
▶	Ord_5446	2010-07-28	REGULAR AIR	-30.51
	Ord_5406	2009-08-07	EXPRESS AIR	4.56
	Ord_5446	2010-07-27	EXPRESS AIR	1148.90
	Ord_5456	2010-11-11	EXPRESS AIR	729.34
	Ord_5485	2009-08-07	DELIVERY TRUCK	1219.87
	Ord_5446	2010-07-28	EXPRESS AIR	-47.64
	Ord_31	2011-05-30	REGULAR AIR	1.32
	Ord_4725	2011-12-31	REGULAR AIR	1137.91

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Problem: 3

Print the shipment mode, profit made and product category for each product.

```
select p.prod_id, ship_mode, profit,
product_category from
prod_dimen p inner join market_fact_full
m on m.prod_id = p.prod_id
inner join shipping_dimen s on m.ship_id
= s.ship_id ;
```

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Problem: 3

Print the shipment mode, profit made and product category for each product.

	prod_id	ship_mode	profit	product_category
▶	Prod_16	REGULAR AIR	-30.51	OFFICE SUPPLIES
	Prod_13	EXPRESS AIR	4.56	OFFICE SUPPLIES
	Prod_4	EXPRESS AIR	1148.90	TECHNOLOGY
	Prod_6	EXPRESS AIR	729.34	OFFICE SUPPLIES
	Prod_17	DELIVERY TRUCK	1219.87	TECHNOLOGY
	Prod_6	EXPRESS AIR	-47.64	OFFICE SUPPLIES
	Prod_12	REGULAR AIR	1.32	OFFICE SUPPLIES
	Prod_4	REGULAR AIR	1137.91	TECHNOLOGY

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Problem: 4

Which customer ordered the most number of products?

```
 select c.cust_id , customer_name,
count(prod_id) from market_fact_full
m  inner join cust_dimen c on
m.Cust_id = c.Cust_id
 group by c.Cust_id order by
count(prod_id) desc limit 1 ;
```

	cust_id	customer_name	count(prod_id)
▶	Cust_1818	AARON BERGMAN	6

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Problem: 5

Selling office supplies was more profitable in Delhi as compared to Patna. True or false?

```
select profit, city from
market_fact_full m inner join
prod_dimen p on m.Prod_id = p.Prod_id
inner join cust_dimen c on c.Cust_id
= m.Cust_id where Product_Category =
'Office SUpplies' and city in
('Delhi', 'Patna');
```

	profit	city
▶	79.34	Delhi

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Problem: 6

Print the three most common products.

```
select product_sub_category,
sum(order_quantity) from
market_fact_full m inner join
prod_dimen p on m.Prod_id = p.Prod_id
group by Product_Sub_Category order
by sum(order_quantity) desc limit 3;
```

	product_sub_category	sum(order_quantity)
▶	PAPER	112
	TELEPHONES AND COMMUNICATION	74
	SCISSORS, RULERS AND TRIMMERS	50

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Problem: 7

View and joins together : Which year generated the highest profit?

```
 create view profit_year as select
sum(profit), year(order_date) from
market_fact_full m inner join
orders_dimen o on m.Ord_id = o.Ord_id
 group by year(Order_date) order by
sum(profit) desc ;

select * from profit_year;
```

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Problem: 7

View and joins together : Which year generated the highest profit?

	sum(profit)	year(order_date)
▶	3476.07	2010
	1224.43	2009
	249.10	2011

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Problem: 8

Return the order ids which are present in the market facts table.

```
select m.ord_id from orders_dimen o
right join market_fact_full m on
m.Ord_id = o.Ord_id;
```

	ord_id
▶	Ord_1925
	Ord_2207
	Ord_2207
	Ord_2978
	Ord_31
	Ord_4725
	Ord_4725
	Ord_4725

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Problem: 9

Combine the order numbers for orders and order ids for all shipments in a single column.

```
(select ord_id from orders_dimen)
union all (select Order_Number from
shipping_dimen);
```

ord_id
Ord_1
Ord_5344
Ord_3806
Ord_497
Ord_5134
Ord_1304
Ord_5085
Ord_3807

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Problem: 10

What are the two most and the two least profitable products?

```
(select sum(profit), prod_id from
market_fact_full group by prod_id order
by sum(profit) desc limit 2)
 union
  (select sum(profit), prod_id from
market_fact_full group by prod_id order
by sum(profit) asc limit 2) ;
```

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Problem: 10

What are the two most and the two least profitable products?

	sum(profit)	prod_id
▶	2286.81	Prod_4
	1675.98	Prod_2
	-693.23	Prod_11
	-317.48	Prod_10

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In the next post we will bring new case study with more compleixities, it that’ll help us with more advanced queries.

THANK YOU