

SHARON REGINA
GROUP 7
SHARONREGINA99@GMAIL.COM

a. Intermediate Questions

1.

```
-- 1
select year(OrderDate) order_year,
       month(OrderDate) order_month,
       count(CustomerID) count_customer
from dbo.Orders
where year(OrderDate) = 1997
group by year(OrderDate) ,
         month(OrderDate)
;
```

100 %

Results Messages

	order_year	order_month	count_customer
1	1997	1	33
2	1997	2	29
3	1997	3	30
4	1997	4	31
5	1997	5	32
6	1997	6	30
7	1997	7	33
8	1997	8	33
9	1997	9	37
10	1997	10	38
11	1997	11	34
12	1997	12	48

2.

```
-- 2
select concat(LastName, ' ', FirstName) employee_name
from dbo.Employees
where Title = 'Sales Representative'
```

100 %

Results Messages

	employee_name
1	Davolio, Nancy
2	Leverling, Janet
3	Peacock, Margaret
4	Suyama, Michael
5	King, Robert
6	Dodsworth, Anne

3.

```

select c.ProductName,
       count(a.OrderID) count_orders
from   dbo.Orders a
join   dbo.OrderDetails b on a.OrderID = b.OrderID
join   dbo.Products c on b.ProductID = c.ProductID
where  year(OrderDate) = 1997
and    month(OrderDate) = 1
group by c.ProductName
order by count(a.OrderID) desc
offset 0 rows
fetch next 5 rows only

```

00 %

Results Messages

	ProductName	count_orders
1	Gumbär Gummibärchen	4
2	Raclette Courdavault	4
3	Alice Mutton	3
4	Geitost	3
5	Gnocchi di nonna Alice	3

4.

```

-- 4
select CompanyName, ProductName
from   dbo.Products a
join   dbo.OrderDetails b on a.ProductID = b.ProductID
join   dbo.Orders c on b.OrderID = c.OrderID
join   dbo.Customers d on c.CustomerID = d.CustomerID
where  ProductName like ('%Chai%')
and    month(OrderDate) = 6
and    year(OrderDate) = 1997

```

%

Results Messages

CompanyName	ProductName
Tortuga Restaurante	Chai

5.

```

with
grouping as (
    select
        case when sum(UnitPrice * quantity) <= 100 then '<=100'
        when sum(UnitPrice * quantity) > 100 and sum(UnitPrice * quantity) <= 250 then '100<x<=250'
        when sum(UnitPrice * quantity) > 250 and sum(UnitPrice * quantity) <= 500 then '250<x<=500'
        when sum(UnitPrice * quantity) > 500 then '>500'
        end as sales_group,
        OrderID
    from dbo.OrderDetails
    group by orderid
)
select sales_group, count(OrderID) count_order
from grouping
group by sales_group

```

100 %

Results Messages

	sales_group	count_order
1	100<x<=250	64
2	250<x<=500	118
3	<=100	37
4	>500	611

6.

```

select companyname, sum(unitprice* quantity) sales
from dbo.orders a
join dbo.orderdetails b on a.orderid = b.orderid
join dbo.customers c on a.customerid = c.customerid
where year(orderdate) = 1997
group by companyname
having sum(unitprice*quantity) > 500

```

100 %

Results Messages

	companyname	sales
1	Vaffeljernet	9710.50
2	Ottiles K�seladen	8398.60
3	Sant� Gourmet	700.00
4	Let's Stop N Shop	2039.42
5	Hungry Coyote Import Store	2283.20
6	Morgenstern Gesundkost	3596.40
7	HILARION-Abastos	14026.18
8	Ricardo Adocicados	4338.90
9	Pericles Comidas cl�sicas	2065.40
10	Wartian Herkku	13106.30
11	Rancho grande	1149.40
12	Lehmanns Marktstand	14433.17
13	Queen Cozinha	10937.25
14	Island Trading	2560.50
15	Blauer See Delikatessen	1079.80
16	Folies gourmandes	11666.90

Query exe... JIEPNB3576\SQLEXPRESS (16.0... JIEPNB3576\Sharon R (68) Northwind 00:00:00 75 rows

7.

```

with products as (
    select month(orderdate) order_month,
           productid,
           sum(unitprice * quantity) as sales
    from orders a
    join orderdetails b on a.orderid = b.orderid
    where year(orderdate) = 1997
    group by month(orderdate), productid
),
ranking as (
    select order_month,
           productid,
           sales,
           row_number() over (partition by order_month order by sales desc) rank
    from products
)
select order_month, productid, sales
from ranking
where rank <= 5

```

00 %

Results Messages

	order_month	productid	sales
1	1	38	20869.20
2	1	59	5060.00
3	1	63	3510.00
4	1	56	3192.00

Query executed successfully. JIEPNB3576\SQLEXPRESS (16.0... JIEPNB3576\Sharon R (68) Northwind 00:00:00 60 rows

	order_month	productid	sales
1	1	38	20869.20
2	1	59	5060.00
3	1	63	3510.00
4	1	56	3192.00
5	1	17	3026.40
6	2	55	3456.00
7	2	61	2622.00
8	2	56	2523.20
9	2	29	2376.00
10	2	28	2074.80
11	3	59	7128.00
12	3	38	6324.00
13	3	51	1950.40
14	3	29	1782.00
15	3	60	1632.00
16	4	56	5517.60
17	4	27	5268.00
18	4	29	4456.44
19	4	38	3952.50
20	4	60	3604.00
21	5	38	8959.00
22	5	43	3910.00
23	5	62	2958.00
24	5	51	2862.00
25	5	17	2847.00
26	6	51	4929.00

8.

+

dbo.Shippers

+

dbo.Suppliers

+

dbo.Territories

+

Views

+

System Views

+

dbo.order_details

+

Columns

+

Triggers

+

Indexes

+

Statistics

```

-- 8
create view order_details as
select a.*, productname, a.unitprice - discount as price_aft_disc
from dbo.orderdetails a
join products b on a.productid = b.productid

```

9.

- dbo.Suppliers
- dbo.Territories
- Views**
- External Resources
- External Data Sources
- External File Formats
- Synonyms
- Programmability
- Stored Procedures
 - System Stored Procedure
 - dbo.SelectCustomers
- Functions
- Database Triggers
- Assemblies
- Types
- Rules
- Defaults
- Sequences
- Query Store
- Service Broker

```
-- 9
create procedure SelectCustomers @customerid nchar(5)
as
select a.customerid,
       companyname as customername,
       a.orderid,
       orderdate,
       requireddate,
       shippeddate
from   dbo.orders a
join   dbo.customers b on a.customerid = b.customerid
where  a.customerid = @customerid
```

100 %

Messages

Commands completed successfully.

Completion time: 2023-01-14T23:00:17.9508384+07:00

b. Analysis

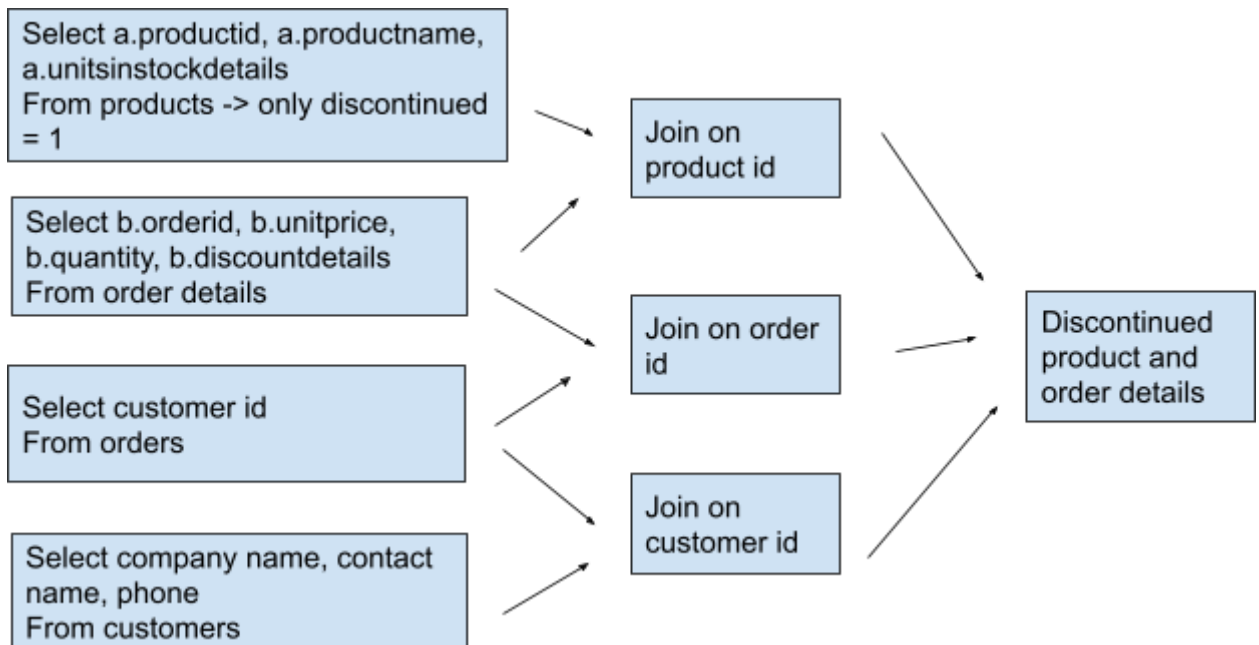
1. Product Analysis

Objective: Analyse the discontinued products' potential; who to sell it to and potential revenue we can get.

Data: a.productid, a.productname, a.unitsinstock, a.discontinued,
b.orderid, b.unitprice, b.quantity, b.discount,
c.customerid,
d.companyname, d.contactname, d.phone

Tables: products, order details, orders, customers

Flow chart:

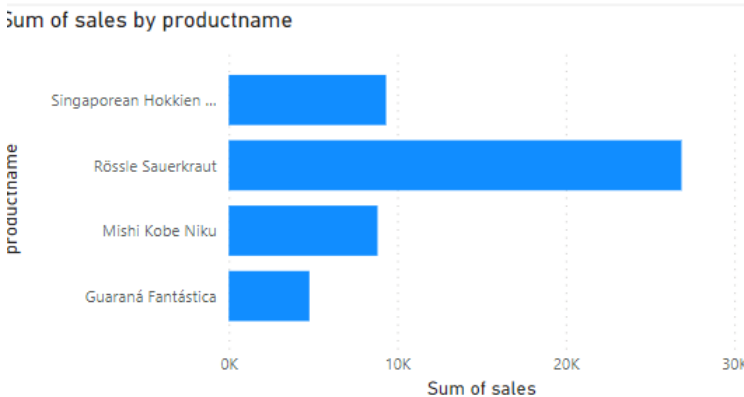
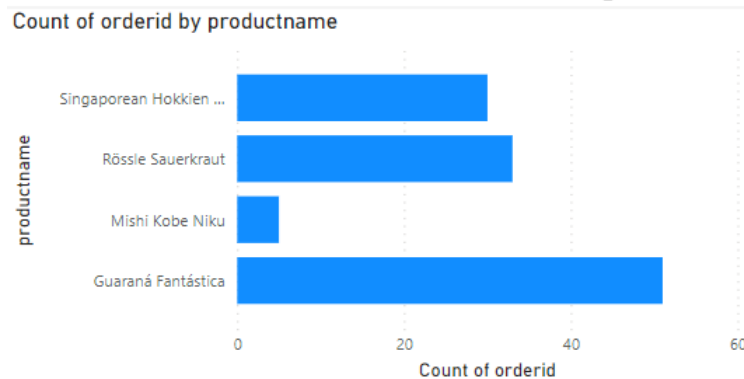


```
-- 1. discontinued product analysis
create table
select a.productid, a.productname, a.unitsinstock,
b.orderid, b.unitprice*b.quantity sales, b.discount,
c.customerid,
d.companyname, d.contactname, d.phone
from products a
join order_details b on a.productid = b.productid
join orders c on b.orderid = c.orderid
join customers d on c.customerid = d.customerid
where discontinued = 1
```

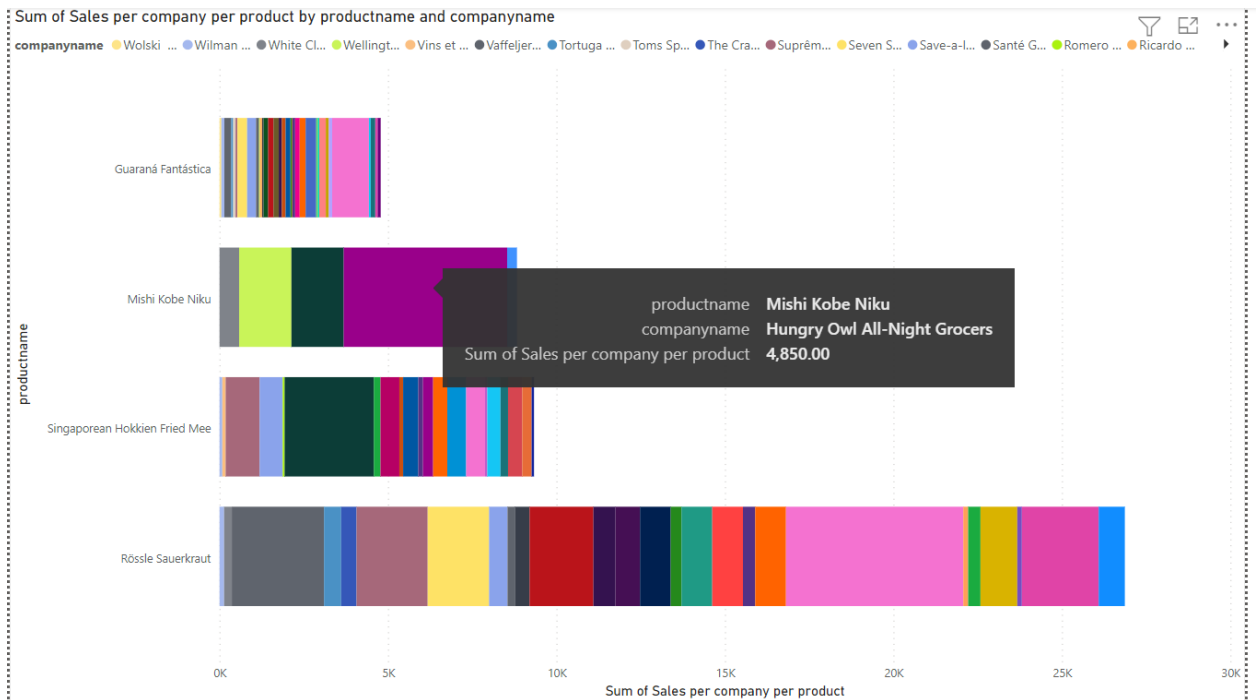
	productid	productname	unitsinstock	orderid	sales	discount	customerid	companyname	contactname	phone
1	28	Rössle Sauerkraut	26	10643	684.00	0.25	ALFKI	Alfreds Futterkiste	Maria Anders	030-0074321
2	28	Rössle Sauerkraut	26	10952	91.20	0	ALFKI	Alfreds Futterkiste	Maria Anders	030-0074321
3	42	Singaporean Hokkien Fried Mee	26	10625	70.00	0	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	(5) 555-4729
4	17	Alice Mutton	0	10573	702.00	0	ANTON	Antonio Moreno Taquería	Antonio Moreno	(5) 555-3932
5	53	Perth Pasties	0	10573	820.00	0	ANTON	Antonio Moreno Taquería	Antonio Moreno	(5) 555-3932
6	42	Singaporean Hokkien Fried Mee	26	10856	280.00	0	ANTON	Antonio Moreno Taquería	Antonio Moreno	(5) 555-3932
7	24	Guaraná Fantástica	20	10355	90.00	0	AROUT	Around the Horn	Thomas Hardy	(171) 555-7788
8	53	Perth Pasties	0	10558	590.40	0	AROUT	Around the Horn	Thomas Hardy	(171) 555-7788
9	24	Guaraná Fantástica	20	10280	43.20	0	BERGS	Berglunds snabbköp	Christina Berglund	0921-12 34 65
10	17	Alice Mutton	0	10444	312.00	0	BERGS	Berglunds snabbköp	Christina Berglund	0921-12 34 65
11	53	Perth Pasties	0	10626	393.60	0	BERGS	Berglunds snabbköp	Christina Berglund	0921-12 34 65
12	28	Rössle Sauerkraut	26	10733	912.00	0	BERGS	Berglunds snabbköp	Christina Berglund	0921-12 34 65
13	29	Thüringer Rostbratwurst	0	10857	1237...	0.25	BERGS	Berglunds snabbköp	Christina Berglund	0921-12 34 65
14	24	Guaraná Fantástica	20	10866	27.00	0.25	BERGS	Berglunds snabbköp	Christina Berglund	0921-12 34 65

Query executed successfully. JIEPNB3576\SQLEXPRESS (16.0... JIEPNB3576\Sharon R (70) Northwind 00:00:00 228 rows

productname	unitsinstock
Guaraná Fantástica	20
Mishi Kobe Niku	29
Rössle Sauerkraut	26
Singaporean Hokkien Fried Mee	26



	productname	companyname	sales	rnk
1	Guaraná Fantástica	Ernst Handel	1090.80	1
2	Guaraná Fantástica	Hanari Carnes	315.00	2
3	Guaraná Fantástica	Seven Seas Imports	288.00	3
4	Mishi Kobe Niku	Hungry Owl All-Night Grocers	4850.00	1
5	Mishi Kobe Niku	QUICK-Stop	1552.00	2
6	Mishi Kobe Niku	Wellington Importadora	1552.00	3
7	Rössle Sauerkraut	Ernst Handel	5261.20	1
8	Rössle Sauerkraut	Vaffeljernet	2736.00	2
9	Rössle Sauerkraut	Berglunds snabbköp	2280.00	3
10	Singaporean Hokkien Fried Mee	QUICK-Stop	2648.80	1
11	Singaporean Hokkien Fried Mee	Suprêmes délices	1008.00	2
12	Singaporean Hokkien Fried Mee	Save-a-lot Markets	686.00	3



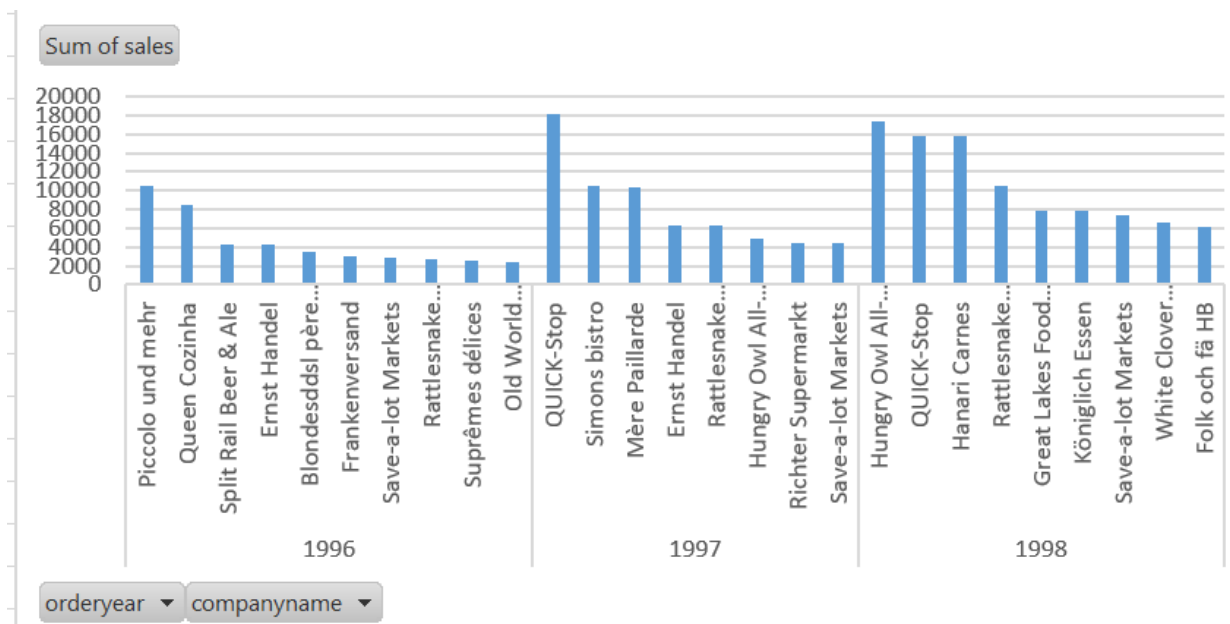
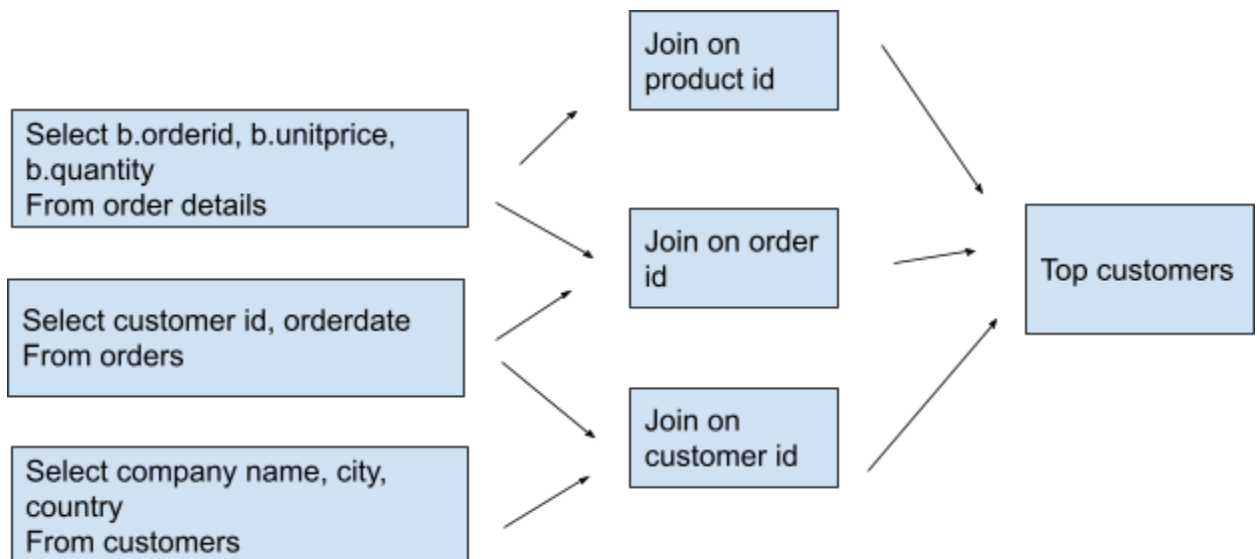
2. Customer Analysis

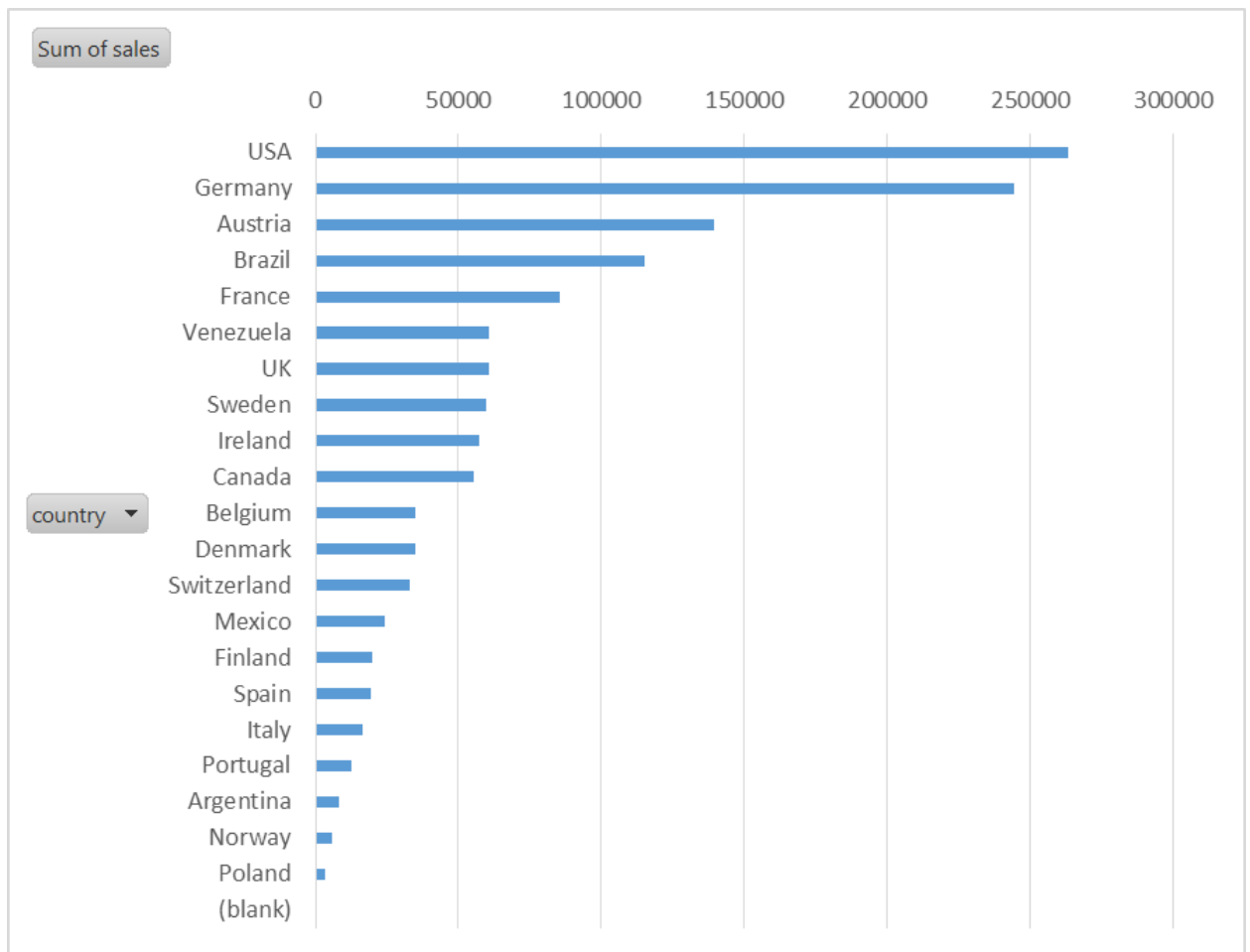
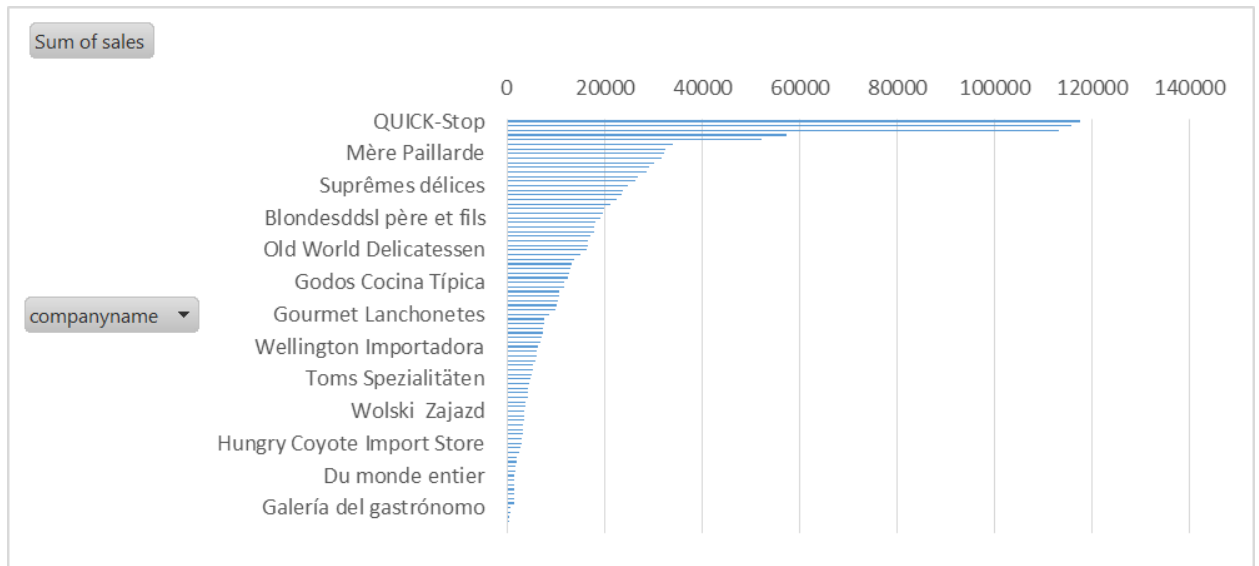
Objective: Analyse who our top customers are over 3 years for loyalty programs.

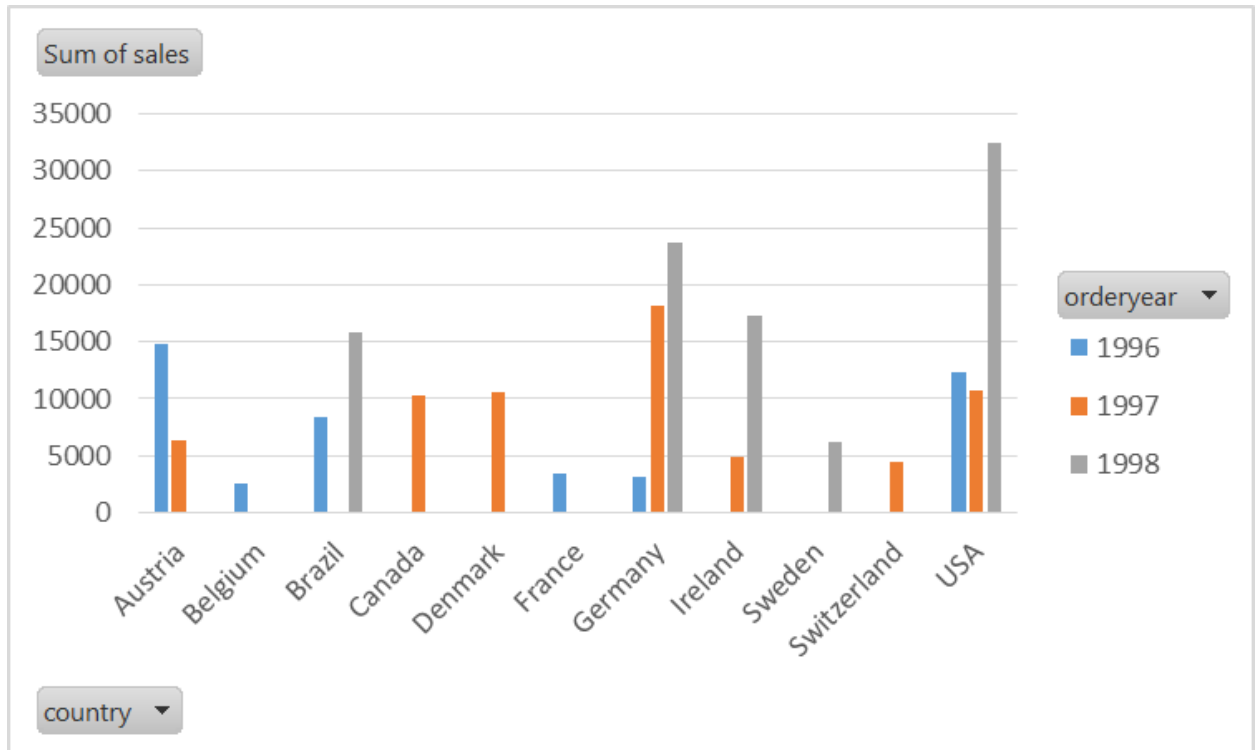
Data: b.orderid, b.unitprice*b.quantity sales,
c.customerid, cast(c.orderdate as date) orderdate, year(cast(c.orderdate as date)) orderyear,
d.companyname, d.city, d.country

Tables: order details, orders, customers

Flow chart:







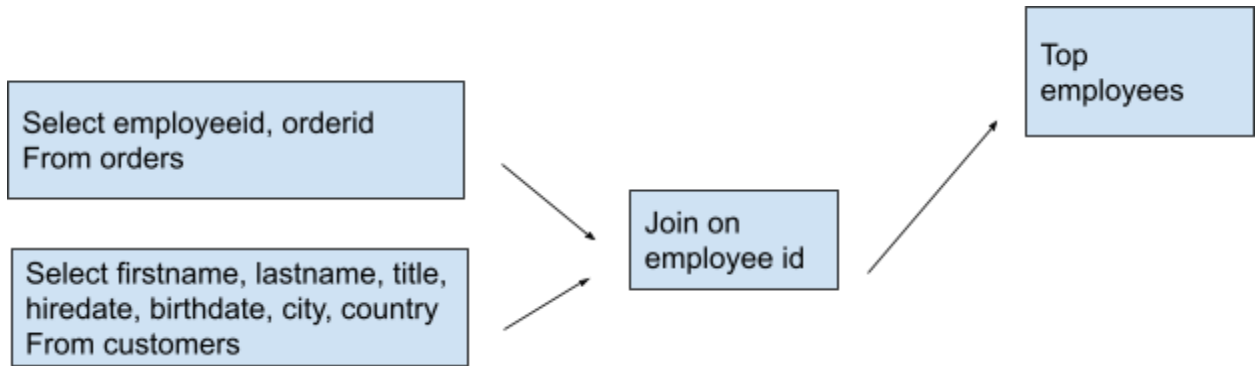
3. Employee Analysis

Objective: Analyse who our top employees are.

Data: b.employeeid,
 count(distinct b.orderid) count_order,
 concat(c.firstname,c.lastname) fullname,
 title,
 year(HireDate) - year(birthdate) as hired_age,
 city,
 country

Tables: orders, employees

Flow chart:



	employeeid	count_order	fullname	title	hired_age	city	country
1	4	156	MargaretPeacock	Sales Representative	56	Redmond	USA
2	3	127	JanetLeverling	Sales Representative	29	Kirkland	USA
3	1	123	NancyDavolio	Sales Representative	44	Seattle	USA
4	8	104	LauraCallahan	Inside Sales Coordinator	36	Seattle	USA
5	2	96	AndrewFuller	Vice President, Sales	40	Tacoma	USA
6	7	72	RobertKing	Sales Representative	34	London	UK
7	6	67	MichaelSuyama	Sales Representative	30	London	UK
8	9	43	AnneDodsworth	Sales Representative	28	London	UK
9	5	42	StevenBuchanan	Sales Manager	38	London	UK