SQL REPORT

Supply Chain Project



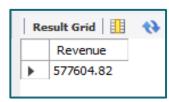
The supply chain data comes with 23 column and 2 column (Profit and Manufacturing cost to Price) were added during the course of the project.

There are different questions to be answered in this analysis which would require exposure to the topics mentioned below:

- Aggregate Functions
- Data Manipulation Language
- Data Definition Language
- Arithmetic (SQL Operators)
- Group By & Order By Clause
- Cast and Convert Function

Database Server used: MySQL

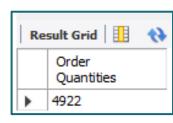
```
...>Revenue
select cast(sum(`Revenue generated`) as decimal(8,2))Revenue from chain;
```



```
How Leadtime Affects Stock Levels and Availability
select sum(`Lead Times`)`Lead Times`, Sum(`Stock Levels`)`Stock Levels`,
sum(`Availability`)`Availability` from chain;
```



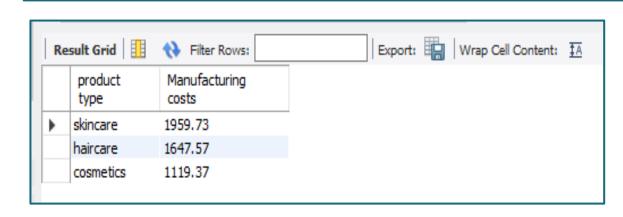
```
____Order Quantities
select sum(`Order quantities`)'Order Quantities' from chain;
```



c>Order Quantities By Location
select location, sum(`Order quantities`)`Order Quantities` from chain
group by location
order by `Order Quantities` desc;



```
Most Costly Products to Produce
select `product type`,cast(sum(`Manufacturing costs`) as decimal(6,2))`Manufacturing costs` from chain
group by `product type`
Order by `product type` desc;
```



```
Relation of Manufacturating cost to selling price
select `product type`, cast(sum(price) as decimal(6,2))Price,
cast(sum(`Manufacturing costs`) as decimal(6,2))`Manufacturing costs`,
cast((sum(price)-sum(`Manufacturing costs`))as decimal(5,2))'Relation of Manufacturating cost to selling price'
from chain
```

	product	Manufacturing		Relation of Manufacturating cost to selling	
	type	Price	costs	price	
•	cosmetics	1491.39	1119.37	372.02	
	haircare	1564.49	1647.57	-83.09	
	skincare	1890.37	1959.73	-69.35	

```
select `Product type`, cast((sum(`Lead times`)/count(`Lead times`))as decimal(4,2))'Average Leadtime' from chain
group by `Product type`;
```



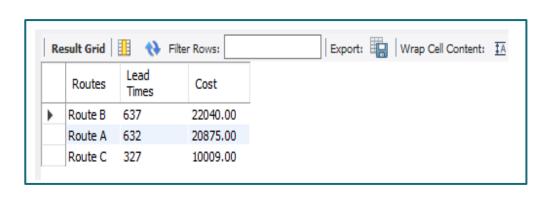
```
correlation Between Inspection Result and Defect Rate
select `inspection results`, cast(sum(`Defect Rates`) as decimal(4,2))`Defect Rates`,
cast(sum(`Defect Rates`)*100/(select sum(`Defect Rates`) from chain)as decimal(4,2)) '%Of Defect Rate',
cast(sum(`Defect Rates`)/count(`Defect Rates`) as decimal(3,2))'Average Defect Rate'
from chain
group by `inspection results`
order by `Defect Rates` desc;
```

inspection results	Defect Rates	%Of Defect Rate	Average Defect Rate	
Fail	92.49	40.62	2.57	
Pending	88.32	38.79	2.15	
Pass	46.90	20.59	2.04	

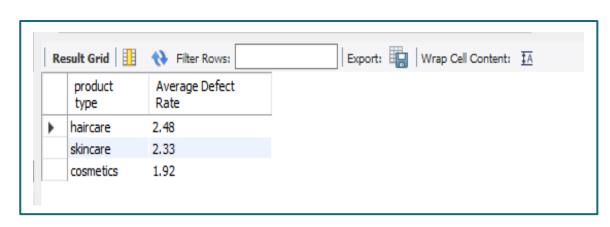
```
How Transportation Modes Affect Lead Time and Cost
select `Transportation Modes`, sum(`lead times`)'Lead Times', cast(sum(costs) as decimal(9,2))'Cost'
from chain
group by `Transportation Modes`;
```

N.	esult Grid 🔢 🙌	Filler ROWS:		Export: Wrap Cell Content: TA
	Transportation Modes	Lead Times	Cost	
•	Road	497	16047.00	-
	Air	475	14606.00	
	Rail	417	15169.00	
	Sea	207	7102.00	

```
impact of Different Routes on Costs and Lead Times
select `Routes`, sum(`lead times`)'Lead Times', convert(sum(cost),decimal(8,2))'Cost'
from chain
group by `Routes`
order by `lead times`desc;
```



```
Average Defect Rate For Each Product
select `product type`,
cast(sum(`Defect rates`)/count(`Defect rates`) as decimal (3,2))'Average Defect Rate'
from chain
group by `product type`;
```



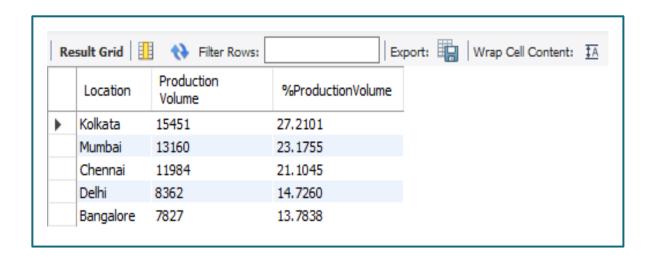
```
correlation of Inspection Result and Manufacturing Cost
select `Inspection results`, cast(sum(`Manufacturing costs`) as decimal(6,2))`Manufacturing Costs`,
cast((sum(`Manufacturing costs`)*100/(select sum(`Manufacturing costs`) from chain))as decimal(4,2))`Manufacturing Costs`
from chain
group by `Inspection results`
order by `Manufacturing costs` desc;
```

N	esult Grid 🔢 🔌	Filter Rows:	Export:	Wrap Cell Content:	+~
	Inspection results	Manufacturing Costs	%Manufacturing Costs		
•	Fail	1880.30	39.78		
	Pending	1785.07	37.77		
	Pass	1061.30	22,45		

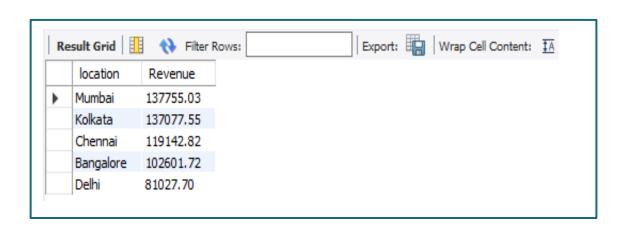
```
production Volumes Alinged With Market Demands
select `Location`, sum(`Production volumes`)`Production Volume` from chain
group by `Location`
order by `Production Volume` desc;
```



```
percentage of Production Volumes Alinged With Market Demands
select `Location`, sum(`Production volumes`)`Production Volume`,
(sum(`Production volumes`)*100/(select sum(`Production volumes`) from chain))'%ProductionVolume'
from chain
group by `Location`
order by `Production Volume` desc;
```



->Revenue By Location
select location, cast(sum(`Revenue generated`) as decimal(8,2))Revenue from chain
group by location
order by Revenue desc

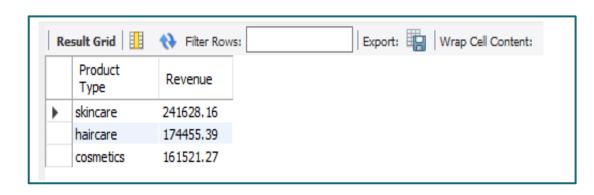


```
Revenue By Product Type

select `Product Type`, cast(sum(`Revenue generated`) as decimal(8,2))Revenue from chain

group by `Product Type`

order by Revenue desc
```



```
->Revenue Contribution Percentage

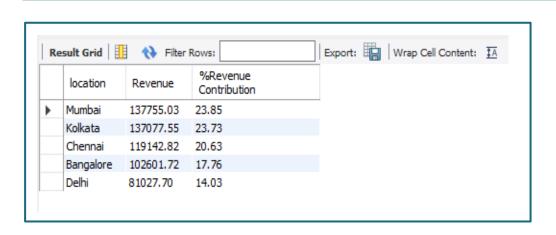
select location, cast(sum(`Revenue generated`)as decimal(8,2))`Revenue`,

cast(sum(`Revenue generated`)*100/(select sum(`Revenue generated`) from chain)as decimal(4,2))'%Revenue Contribution'

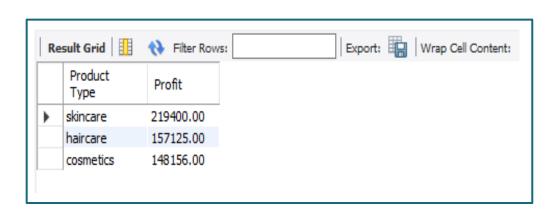
from chain

group by location

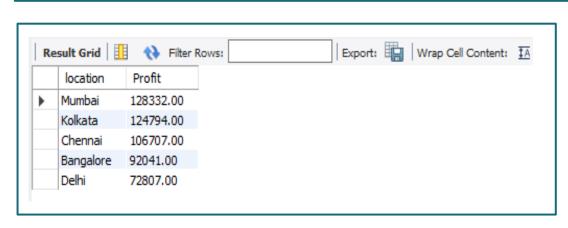
order by `Revenue` desc
```



```
profit By Product
select `Product Type`, cast(sum(`Profit`) as decimal(8,2))`Profit` from chain
group by `Product Type`
order by `Profit` desc;
```



```
Profit by Location
select location, cast(sum(`Profit`) as decimal(8,2))`Profit` from chain
group by location
order by `Profit` desc
```



```
->Profit Contribution %

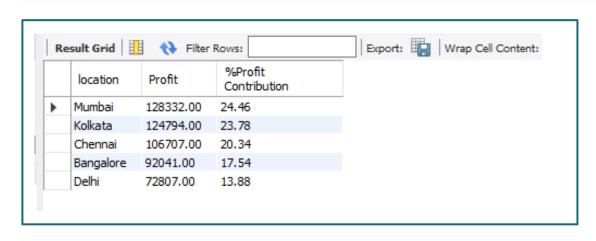
select location, cast(sum(`Profit`)as decimal(8,2))`Profit`,

cast(sum(`Profit`)*100/(select sum(`Profit`) from chain)as decimal(8,2))'%Profit Contribution'

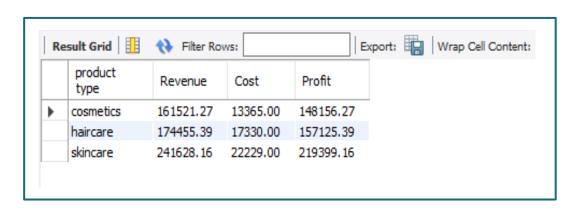
from chain

group by location

order by `Profit` desc;
```



```
c>>Overall Profitability of Product
select `product type`, cast(sum(`Revenue generated`) as decimal(8,2))Revenue,
cast(sum(costs)as decimal(7,2))Cost,
cast((sum(`Revenue generated`)-sum(costs))as decimal(8,2))Profit from chain
group by `product type`
order by `product type`;
```



INSIGHTS

- Skincare product and Mumbai (Location) generated more revenue at 241628.16 & 137755.03 respectively.
- Availability & Stock Levels are higher than Lead Times at 4840, 4777 & 1596 respectively.
- > Kolkata, Chennai & Mumbai were the top three location with the highest number of orders.
- > Skincare is the costliest product to produce.
- > Relating manufacturing cost to price, haircare and skincare gave negative results -83.09 & -69.35.
- Skincare and Haircare products generated more profit; were the top two highest.
- Mumbai and Kolkata made more profit.
- > Based on Inspection result failed product had the highest manufacturing cost & percentage of defect rate.
- ► Kolkata, Mumbai & Chennai were the top three location with the highest production volume.
- ❖ Note: The currency used for variables like cost, profit, revenue, manufacturing cost are all in India Rupee (INR) ₹