

# SUPERSTORE SALES

**1.What are the total sales and total profits of each year?**

**QUERY:**

```
select extract(year from orderdate) as year,  
sum(sales) as total_sales,  
sum(profit) as total_profit  
from superstore  
group by year  
order by year asc;
```

**OUTPUT:**

|   | year | total_sales | total_profit |
|---|------|-------------|--------------|
| ▶ | 2014 | 484247.56   | 49544.06     |
|   | 2015 | 470532.46   | 61618.69     |
|   | 2016 | 609205.86   | 81795.27     |
|   | 2017 | 733215.19   | 93439.77     |

The sales got decreased in 2015 lets assume it as 1% then immediately the sales got increased by 3% in the next year that is 2016 , and again increased by 3% in the year 2017. So here we observed that the profit is high.

**2.What are the total profits and total sales per quarter?**

**QUERY:**

```
select  
extract(year from orderdate) as year,  
extract(quarter from orderdate) as quarter,  
sum(sales) as total_sales,  
sum(profit) as total_profit  
from superstore  
group by year,quarter  
order by year,quarter;
```

**OUTPUT:**

|   | year | quarter | total_sales | total_profit |
|---|------|---------|-------------|--------------|
| ▶ | 2014 | 1       | 96498.79    | 7296.72      |
|   | 2014 | 2       | 83636.93    | 13013.13     |
|   | 2014 | 3       | 139306.00   | 10530.01     |
|   | 2014 | 4       | 164805.84   | 18704.20     |
|   | 2015 | 1       | 90952.33    | 12574.17     |
|   | 2015 | 2       | 97852.90    | 13700.71     |
|   | 2015 | 3       | 145554.19   | 20713.41     |
|   | 2015 | 4       | 136173.04   | 14630.40     |
|   | 2016 | 1       | 136898.68   | 25135.14     |
|   | 2016 | 2       | 149148.61   | 21879.08     |
|   | 2016 | 3       | 131098.58   | 12153.72     |
|   | 2016 | 4       | 192059.99   | 22627.33     |
|   | 2017 | 1       | 189519.90   | 33251.33     |
|   | 2017 | 2       | 127696.70   | 9073.80      |
|   | 2017 | 3       | 204222.00   | 25986.96     |
|   | 2017 | 4       | 211776.59   | 25127.68     |

From the above data we observed that the profits are low and we can tell that there are no constant sales in quarter wise like in 2014 quarter 2 sales are low, 2015 quarter 4 sales are low, 2016 quarter 3 sales are low, 2017 quarter 2 sales are low.

This is done to see the periods where our company has been the most impactful. So that in the future, we can tailor our operations where we see fit like maximizing our resources like advertisement, customer service and our overall presence during those times of the year.

### 3. What region generates the highest sales and profits?

#### i. which region generates highest sales and profits

**QUERY:**

**select**

**region,**

**sum(sales) as total\_sales,**

**sum(profit) as total\_profit**

**from superstore**

**group by region**

**order by sum(sales) desc;**

**OUTPUT:**

|   | region  | total_sales | total_profit |
|---|---------|-------------|--------------|
| ▶ | West    | 725457.93   | 108418.79    |
|   | East    | 678781.36   | 91522.84     |
|   | Central | 501239.88   | 39706.45     |
|   | South   | 391721.90   | 46749.71     |

In the west region we are having highest sales and profit means there is a scope to get even more profits if we increase our products and all insights and with good customer service and all and in the central there is a less profit compared to all other, south is having less sales.

ii. Include profit margins to see this under a different lens.

QUERY:

```
select
region,
sum(sales) as total_sales,
sum(profit) as total_profit,
ROUND((SUM(profit)/SUM(sales))*100,2) as profit_margin
from superstore
group by region
order by profit_margin desc;
```

OUTPUT:

|  | region  | total_sales | total_profit | profit_margin |
|--|---------|-------------|--------------|---------------|
|  | West    | 725457.93   | 108418.79    | 14.94         |
|  | East    | 678781.36   | 91522.84     | 13.48         |
|  | South   | 391721.90   | 46749.71     | 11.93         |
|  | Central | 501239.88   | 39706.45     | 7.92          |

From the above data we can tell that the investors can get a quick idea to where to invest high and where to make more changes to get more profits like based on the above report central is having very least profit margin so by making some changes maybe they can get good profit margin like west. Here west and east are having very high profit margin.

#### 4. What state and city brings in the highest sales and profits?

i. What states are the top 10 highest and lowest then move on to the cities

QUERY:

```
select
state,
sum(sales) as total_sales,
sum(profit) as total_profit
from superstore
group by state
```

**order by total\_profit desc limit 10;**

**OUTPUT:**

|   | state      | total_sales | total_profit |
|---|------------|-------------|--------------|
| ► | California | 457687.68   | 76381.60     |
|   | New York   | 310876.20   | 74038.64     |
|   | Washington | 138641.29   | 33402.70     |
|   | Michigan   | 76269.61    | 24463.15     |
|   | Virginia   | 70636.72    | 18598.00     |
|   | Indiana    | 53555.36    | 18382.97     |
|   | Georgia    | 49095.84    | 16250.08     |
|   | Kentucky   | 36591.75    | 11199.70     |
|   | Minnesota  | 29863.15    | 10823.22     |
|   | Delaware   | 27451.07    | 9977.37      |

From the above data we can tell that our least sales are from Kentucky, Minnesota, Delaware so we have to concentrate more on these cities regarding the stocks, customer care and what products are need by those people by providing the required insights we can make more sales and profits.

**Top 3 are California, New York and Washington.**

**ii. Include profit margins to see this under a different lens.**

**QUERY:**

**Select**

**state,**

**sum(sales) as total\_sales,**

**sum(profit) as total\_profit,**

**ROUND((SUM(profit)/SUM(sales))\*100,2) as profit\_margin**

**from superstore**

**group by state**

**order by total\_profit desc limit 10;**

**OUTPUT:**

|  | state      | total_sales | total_profit | profit_margin |
|--|------------|-------------|--------------|---------------|
|  | California | 457687.68   | 76381.60     | 16.69         |
|  | New York   | 310876.20   | 74038.64     | 23.82         |
|  | Washington | 138641.29   | 33402.70     | 24.09         |
|  | Michigan   | 76269.61    | 24463.15     | 32.07         |
|  | Virginia   | 70636.72    | 18598.00     | 26.33         |
|  | Indiana    | 53555.36    | 18382.97     | 34.33         |
|  | Georgia    | 49095.84    | 16250.08     | 33.10         |
|  | Kentucky   | 36591.75    | 11199.70     | 30.61         |
|  | Minnesota  | 29863.15    | 10823.22     | 36.24         |
|  | Delaware   | 27451.07    | 9977.37      | 36.35         |

Profit margin is a measure of how much money a company is making on its products or services after subtracting all of the direct and indirect costs involved. with this profit margin the investors get a good idea of where to invest high and make more profit percentages.

**iii. Get our bottom 10 States.**

**QUERY:**

```
select
state,
sum(sales) as total_sales,
sum(profit) as total_profit
from superstore
group by state
order by total_profit asc limit 10;
```

**OUTPUT:**

| state          | total_sales | total_profit |
|----------------|-------------|--------------|
| Texas          | 170187.98   | -25729.29    |
| Ohio           | 78258.21    | -16971.37    |
| Pennsylvania   | 116512.02   | -15560.04    |
| Illinois       | 80166.16    | -12607.89    |
| North Carolina | 55603.09    | -7490.81     |
| Colorado       | 32108.12    | -6527.86     |
| Tennessee      | 30661.92    | -5341.66     |
| Arizona        | 35282.02    | -3427.87     |
| Florida        | 89473.73    | -3399.25     |
| Oregon         | 17431.14    | -1190.48     |

From the above data we can tell that from Texas, Pennsylvania are having more sales compared to all other , remaining all are less than one lakh.

**iv. Find the Top 3 cities and Bottom 10 Cities.**

**QUERY:**

```
(select city, sum(sales) as total_sales, sum(profit) as total_profit
from superstore group by city order by total_profit desc limit 3)
union
(select city, sum(sales) as total_sales, sum(profit) as total_profit
from superstore group by city order by total_profit asc limit 10);
```

**OUTPUT:**

| city          | total_sales | total_profit |
|---------------|-------------|--------------|
| New York City | 256368.12   | 62037.08     |
| Los Angeles   | 175851.33   | 30440.94     |
| Seattle       | 119540.74   | 29156.13     |
| Philadelphia  | 109077.09   | -13837.83    |
| Houston       | 64504.71    | -10153.48    |
| San Antonio   | 21843.54    | -7299.06     |
| Lancaster     | 9891.48     | -7239.08     |
| Chicago       | 48539.59    | -6654.55     |
| Burlington    | 21668.08    | -3622.88     |
| Dallas        | 20131.90    | -2846.55     |
| Phoenix       | 11000.27    | -2790.85     |
| Aurora        | 11656.47    | -2691.76     |
| Jacksonville  | 44713.18    | -2323.80     |

From the above data we observed that the top 3 are New York, Los Angeles, Seattle and the bottom 10 are from Philadelphia to Jacksonville and the very least profits are from Aurora and Jacksonville.

#### 5. The relationship between discount and sales and the total discount per category?

##### QUERY:

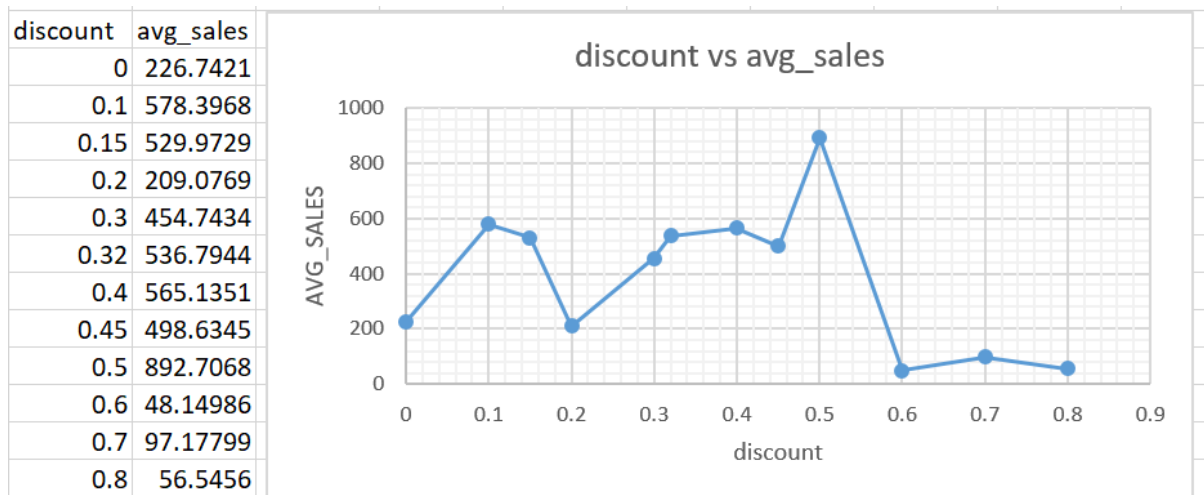
```
select discount,
avg(sales) as avg_sales
from superstore
group by discount
order by discount;
```

##### OUTPUT:

| discount | avg_sales  |
|----------|------------|
| 0.00     | 226.742074 |
| 0.10     | 578.396809 |
| 0.15     | 529.972885 |
| 0.20     | 209.076916 |
| 0.30     | 454.743436 |
| 0.32     | 536.794444 |
| 0.40     | 565.135097 |
| 0.45     | 498.634545 |
| 0.50     | 892.706818 |
| 0.60     | 48.149855  |
| 0.70     | 97.177990  |
| 0.80     | 56.545600  |

The Correlation between discount and average sales helps us to understand how impactful one is to the other.

ii. check the correlation with a graph in Excel.



From the above graph we can tell that the x-axis is the discount and the y-axis is avg\_sales. So this graph tells about the correlation between discount and the avg\_salary.

iii. Total discount per product category.

QUERY:

```
select category,
subcategory,
sum(discount) as total_discount
from superstore
group by category,subcategory
order by total_discount desc;
```

OUTPUT:

| category        | subcategory | total_discount |
|-----------------|-------------|----------------|
| Office Supplies | Binders     | 567.00         |
| Technology      | Phones      | 137.40         |
| Furniture       | Furnishings | 132.40         |
| Furniture       | Chairs      | 105.00         |
| Office Supplies | Paper       | 102.60         |
| Furniture       | Tables      | 83.35          |
| Office Supplies | Appliances  | 77.60          |
| Office Supplies | Storage     | 63.20          |
| Technology      | Accessories | 60.80          |
| Office Supplies | Art         | 59.60          |
| Furniture       | Bookcases   | 48.14          |
| Technology      | Machines    | 35.20          |
| Office Supplies | Labels      | 25.00          |
| Office Supplies | Envelopes   | 20.40          |
| Office Supplies | Fasteners   | 17.80          |
| Office Supplies | Supplies    | 14.60          |
| Technology      | Copiers     | 11.00          |

Here in the above query they mentioned per product so we have to get both category and sub category as well. The least discounted items are Fasteners, Supplies, Copiers which is less than 20.00 and the second high discount items are phones which is having 137.40 & furnishings which is 132.40., the highest discount item is Office Suppliers which is 567.00

6. What category generates the highest sales and profits in each region and state?

i. Get the total sales and total profits of each category with their profit margins.

QUERY:

```
select category,
sum(sales) as total_sales,
sum(profit) as total_profit,
ROUND((SUM(profit)/SUM(sales))*100,2) as profit_margin
from superstore
group by category
order by total_profit desc;
```

OUTPUT:

| category        | total_sales | total_profit | profit_margin |
|-----------------|-------------|--------------|---------------|
| Technology      | 836154.10   | 145455.66    | 17.40         |
| Office Supplies | 719046.99   | 122490.88    | 17.04         |
| Furniture       | 741999.98   | 18451.25     | 2.49          |



From the above table we Get the total sales and total profits of each category with their profit margins and here the top highest sales and profits are from technology and the second highest sales and profits are from office suppliers.

ii. Now see the highest total sales and total profits per Category in each state.

QUERY:

Select

state,

category,

sum(sales) as total\_sales,

sum(profit) as total\_profit

from superstore

group by state,category

order by total\_profit desc;

OUTPUT:

| state      | category        | total_sales | total_profit |
|------------|-----------------|-------------|--------------|
| New York   | Technology      | 127483.48   | 42186.89     |
| California | Office Supplies | 142351.89   | 37748.46     |
| California | Technology      | 159271.12   | 29470.23     |
| New York   | Office Supplies | 90020.03    | 25994.03     |
| Washington | Technology      | 50536.71    | 15019.42     |
| Michigan   | Office Supplies | 37723.76    | 15005.31     |
| Washington | Office Supplies | 40084.42    | 11189.48     |
| Indiana    | Technology      | 26323.25    | 11000.88     |
| Georgia    | Office Supplies | 26715.81    | 9800.91      |
| California | Furniture       | 156064.67   | 9162.91      |
| Minnesota  | Office Supplies | 19406.54    | 7780.51      |
| Virginia   | Technology      | 24145.16    | 7407.75      |
| Washington | Furniture       | 48020.16    | 7193.80      |
| Delaware   | Technology      | 14562.22    | 6239.04      |
| Virginia   | Office Supplies | 21169.61    | 5985.91      |
| New York   | Furniture       | 93372.69    | 5857.72      |

From the above table we can see the highest total sales and total profits per Category in each state. Here the top sales are from the state New York and California & categories are technology and office supplies and if we increase our some of the office suppliers and by adding some new technology there is a chance to get even more profits.

iii. check the least profitable ones by just changing our 'ORDER BY' clause to ascending

QUERY:

```

Select
state,
category,
sum(sales) as total_sales,
sum(profit) as total_profit
from superstore
group by state,category
order by total_profit asc;

```

**OUTPUT:**

| state          | category        | total_sales | total_profit |
|----------------|-----------------|-------------|--------------|
| Texas          | Office Supplies | 44490.43    | -18584.66    |
| Ohio           | Technology      | 35676.04    | -12649.93    |
| Texas          | Furniture       | 60593.34    | -10436.17    |
| Illinois       | Furniture       | 28274.57    | -9076.32     |
| Illinois       | Office Supplies | 19907.92    | -8354.17     |
| Pennsylvania   | Furniture       | 39354.94    | -7196.70     |
| Pennsylvania   | Office Supplies | 34941.78    | -5172.11     |
| Ohio           | Furniture       | 24199.13    | -4206.38     |
| North Carolina | Technology      | 26083.10    | -3583.28     |
| North Carolina | Furniture       | 15155.47    | -3486.44     |
| Colorado       | Technology      | 10966.31    | -3471.58     |
| Tennessee      | Office Supplies | 12347.88    | -3199.11     |
| Pennsylvania   | Technology      | 42215.30    | -3191.23     |
| Arizona        | Furniture       | 13525.33    | -2744.91     |
| Colorado       | Furniture       | 13243.05    | -2683.15     |
| Florida        | Furniture       | 22987.04    | -2255.02     |

Here we did the same process as previous one but as we need least profitable one we just changed the desc to asc in the order by clause , by this we get the least profits are from the state Texas in the category Office Supplies and Furniture and in the state Ohio its from the category technology.

**7. What subcategory generates the highest sales and profits in each region and state?**

i. Get the total sales and total profits of each subcategory with their profit margins.

**QUERY:**

```

Select
subcategory,
sum(sales) as total_sales,
sum(profit) as total_profit,
round(sum(profit)/sum(sales)*100,2) as profit_margin

```

from superstore

group by subcategory

order by total\_profit desc;

OUTPUT:

| subcategory | total_sales | total_profit | profit_margin |
|-------------|-------------|--------------|---------------|
| Copiers     | 149528.01   | 55617.90     | 37.20         |
| Phones      | 330007.10   | 44516.25     | 13.49         |
| Accessories | 167380.31   | 41936.78     | 25.05         |
| Paper       | 78479.24    | 34053.34     | 43.39         |
| Binders     | 203412.77   | 30221.64     | 14.86         |
| Chairs      | 328449.13   | 26590.15     | 8.10          |
| Storage     | 223843.59   | 21279.05     | 9.51          |
| Appliances  | 107532.14   | 18138.07     | 16.87         |
| Furnishings | 91705.12    | 13059.25     | 14.24         |
| Envelopes   | 16476.38    | 6964.10      | 42.27         |
| Art         | 27118.80    | 6527.96      | 24.07         |
| Labels      | 12486.30    | 5546.18      | 44.42         |
| Machines    | 189238.68   | 3384.73      | 1.79          |
| Fasteners   | 3024.25     | 949.53       | 31.40         |
| Supplies    | 46673.52    | -1188.99     | -2.55         |
| Bookcases   | 114880.05   | -3472.56     | -3.02         |

From the above data we Get the total sales and total profits of each subcategory with their profit margins. By observing the table we can tell that the highest profits are from the categories like copiers, phones and accessories and the least profits are suppliers and bookcases. And the profit margins are very high for the paper in the first place and in the second place there are copiers.

ii. See the highest total sales and total profits per subcategory in each region.

QUERY:

Select

region,

subcategory,

sum(sales) as total\_sales,

sum(profit) as total\_profit

from superstore

group by region, subcategory

order by total\_profit desc;

OUTPUT:

| region  | subcategory | total_sales | total_prof |
|---------|-------------|-------------|------------|
| West    | Copiers     | 49749.23    | 19327.25   |
| East    | Copiers     | 53219.46    | 17022.88   |
| West    | Accessories | 61114.10    | 16484.62   |
| West    | Binders     | 55961.11    | 16096.78   |
| Central | Copiers     | 37259.57    | 15608.86   |
| Central | Phones      | 72403.26    | 12323.14   |
| East    | Phones      | 100615.02   | 12314.70   |
| West    | Paper       | 26663.73    | 12119.10   |
| East    | Binders     | 53498.06    | 11267.92   |
| East    | Accessories | 45033.38    | 11195.89   |
| South   | Phones      | 58304.43    | 10767.35   |
| East    | Chairs      | 96260.65    | 9357.77    |
| West    | Phones      | 98684.39    | 9111.06    |
| East    | Paper       | 20172.62    | 9015.29    |
| West    | Storage     | 70532.84    | 8645.49    |
| East    | Appliances  | 34188.50    | 8391.45    |

From the above table we can see the highest total sales and total profits per subcategory in each region. From the west region copiers, accessories, binders are having high sales and high profits and copiers from the region east are having high sales and high profits.

iii. Now see the least performing ones.

QUERY:

select

region,

subcategory,

sum(sales) as total\_sales,

sum(profit) as total\_profit

from superstore

group by region,subcategory

order by total\_profit asc;

OUTPUT:

| region  | subcategory | total_sales | total_profit |
|---------|-------------|-------------|--------------|
| East    | Tables      | 39139.82    | -11025.39    |
| South   | Tables      | 43916.19    | -4623.06     |
| Central | Furnishings | 15254.35    | -3906.18     |
| Central | Tables      | 39155.07    | -3559.68     |
| Central | Appliances  | 23581.98    | -2638.61     |
| Central | Bookcases   | 24157.16    | -1997.92     |
| West    | Bookcases   | 36004.18    | -1646.50     |
| Central | Machines    | 26797.38    | -1486.07     |
| South   | Machines    | 53890.98    | -1438.90     |
| East    | Bookcases   | 43819.34    | -1167.65     |
| East    | Supplies    | 10760.10    | -1155.11     |
| Central | Binders     | 56923.26    | -1043.71     |
| Central | Supplies    | 9467.37     | -661.88      |
| West    | Machines    | 42444.14    | -618.95      |
| South   | Supplies    | 8318.93     | 1.89         |
| South   | Fasteners   | 503.31      | 173.71       |

Here they asked for the least sales so we used asc in the order by clause and here the tables in the east, south, central region are having very less profit and furnishing from the central region is also having second least profit.

iv. Now see the highest total sales and total profits per subcategory in each state.

QUERY:

```

Select
state,
subcategory,
sum(sales) as total_sales,
sum(profit) as total_profit
from superstore
group by state,subcategory
order by total_profit desc;

```

OUTPUT:

| state      | subcategory | total_sales | total_profit |
|------------|-------------|-------------|--------------|
| New York   | Machines    | 43183.50    | 17320.09     |
| New York   | Phones      | 47502.62    | 13399.26     |
| New York   | Binders     | 32456.90    | 11096.01     |
| California | Accessories | 37255.01    | 11095.68     |
| Michigan   | Binders     | 22821.97    | 11079.48     |
| California | Binders     | 28473.11    | 10002.16     |
| Washington | Copiers     | 20249.83    | 9442.43      |
| Indiana    | Copiers     | 18499.93    | 8849.97      |
| California | Paper       | 16757.95    | 7977.42      |
| California | Copiers     | 24559.51    | 7889.85      |
| California | Storage     | 45112.29    | 7204.27      |
| New York   | Chairs      | 46634.20    | 7111.03      |
| California | Appliances  | 24175.92    | 6992.27      |
| California | Phones      | 67964.57    | 6309.30      |
| Washington | Binders     | 18156.14    | 6061.81      |
| Minnesota  | Binders     | 12470.24    | 6041.28      |

From the above data we can tell that the highest sales from the state New York in the sub category machines, phones, blinders. And also accessories from the state California and binders from the state Michigan. And remaining all are having less than 10000.00

v. See the lowest sales and profits. Still in order for the biggest loss in profits.

QUERY:

Select

state,

subcategory,

sum(sales) as total\_sales,

sum(profit) as total\_profit

from superstore

group by state,subcategory

order by total\_profit asc;

OUTPUT:

| state          | subcategory | total_sales | total_profit |
|----------------|-------------|-------------|--------------|
| Texas          | Binders     | 9042.64     | -14705.12    |
| Ohio           | Machines    | 8978.25     | -11770.95    |
| Illinois       | Binders     | 4538.56     | -7204.34     |
| Texas          | Appliances  | 2407.75     | -6147.24     |
| North Carolina | Machines    | 12620.66    | -5384.81     |
| Pennsylvania   | Binders     | 6266.12     | -4571.03     |
| New York       | Tables      | 13779.03    | -4535.65     |
| Colorado       | Machines    | 3313.69     | -4384.26     |
| Illinois       | Tables      | 6550.72     | -4309.76     |
| North Carolina | Tables      | 9681.72     | -3684.25     |
| Tennessee      | Binders     | 5148.05     | -3635.93     |
| Pennsylvania   | Phones      | 19702.41    | -3606.96     |
| Texas          | Furnishings | 3766.71     | -3312.67     |
| Pennsylvania   | Bookcases   | 5230.76     | -2896.77     |
| Ohio           | Phones      | 14634.98    | -2778.87     |
| Florida        | Binders     | 3690.50     | -2760.73     |

From the above data we can conclude that the highest loss is from the state texas in the subcategory blinders and other state is Ohio in the subcategory machines.

8. What are the names of the products that are the most and least profitable to us?

i. verify our most profitable ones.

QUERY:

Select

productname,

sum(sales) as total\_sales,

sum(profit) as total\_profit

from superstore

group by productname

order by total\_profit desc;

OUTPUT:

| productname  | total_sales | total_profit |
|--|-------------|--------------|
| Canon imageCLASS 2200 Advanced Copier              | 61599.83    | 25199.94     |
| Fellowes PB500 Electric Punch Plastic Comb Bind... | 27453.38    | 7753.06      |
| Hewlett Packard LaserJet 3310 Copier               | 18839.68    | 6983.89      |
| Canon PC1060 Personal Laser Copier                 | 11619.83    | 4570.94      |
| HP DesignJet T520 Inkjet Large Format Printer -... | 18374.90    | 4094.98      |
| Ativa V4110MDD Micro-Cut Shredder                  | 7699.89     | 3772.95      |
| 3D Systems Cube Printer, 2nd Generation, Mag...    | 14299.89    | 3717.97      |
| Plantronics Savi W720 Multi-Device Wireless He...  | 9367.29     | 3696.28      |
| Ibico EPK-21 Electric Binding System               | 15875.92    | 3345.29      |
| Zebra ZM400 Thermal Label Printer                  | 6965.70     | 3343.53      |
| Honeywell Enviracaire Portable HEPA Air Cleane...  | 11304.44    | 3247.02      |
| Hewlett Packard 610 Color Digital Copier / Printer | 8899.82     | 3124.94      |
| Plantronics CS510 - Over-the-Head monaural W...    | 10822.36    | 3085.04      |
| Canon Imagedesk D680 Copier / Fax                  | 8959.87     | 2799.97      |
| Fellowes PB300 Plastic Comb Binding Machine        | 8070.20     | 2518.06      |
| Thiro Thimaster 300 Manual Binding System          | 7985.38     | 2318.34      |

Here they asked about the high profits so we used desc in the order by clause and it gave the top row is the high profitable product that is canon copier and the second high profitable products are fellowes blind and Hewlett copier, so by that we can say copiers are the high profitable products.

ii. verify our less profitable ones.

QUERY:

select

productname,

sum(sales) as total\_sales,

sum(profit) as total\_profit

from superstore

group by productname

order by total\_profit asc;

OUTPUT:



| productname  | total_sales | total_profit |
|--|-------------|--------------|
| Cubify CubeX 3D Printer Double Head Print          | 11099.96    | -8879.97     |
| Lexmark MX611dhe Monochrome Laser Printer          | 16829.90    | -4589.97     |
| Cubify CubeX 3D Printer Triple Head Print          | 7999.98     | -3839.99     |
| Chromcraft Bull-Nose Wood Oval Conference T...     | 9917.64     | -2876.11     |
| Bush Advantage Collection Racetrack Conferen...    | 9544.72     | -1934.40     |
| GBC DocuBind P400 Electric Binding System          | 17965.07    | -1878.17     |
| Cisco TelePresence System EX90 Videoconferen...    | 22638.48    | -1811.08     |
| Martin Yale Chadless Opener Electric Letter Ope... | 16656.21    | -1299.19     |
| Balt Solid Wood Round Tables                       | 6518.76     | -1201.06     |
| BoxOffice By Design Rectangular and Half-Moo...    | 1706.26     | -1148.44     |
| Riverside Furniture Oval Coffee Table, Oval En...  | 4446.18     | -1147.41     |
| Epson TM-T88V Direct Thermal Printer - Monoch...   | 1212.71     | -1057.23     |
| Hon 2090 â€œPillow Softâ€ Series Mid Back Swi...   | 5282.42     | -989.04      |
| O'Sullivan 4-Shelf Bookcase in Odessa Pine         | 2740.20     | -975.12      |
| Bretford â€œJust In Timeâ€ Height-Adjustable ...   | 5634.90     | -964.20      |
| Zehra GK420t Direct Thermal/Thermal Transfer ...   | 703.71      | -938.28      |

Here they asked for the less profit so by using asc in the order by clause we get the cubify print are less profitable and Lexmark printer is also giving less profits. If we can change it with other products then maybe there is a chance to get some better profits.

9. What segment makes the most of our profits and sales?

QUERY:

```
select
segment,
sum(sales) as total_sales,
sum(profit) as total_profit
from superstore
group by segment
order by total_profit desc;
```

OUTPUT:

| segment     | total_sales | total_profit |
|-------------|-------------|--------------|
| Consumer    | 1161401.34  | 134119.33    |
| Corporate   | 706146.44   | 91979.45     |
| Home Office | 429653.29   | 60299.01     |

Here from the above table we can tell that the first highest sales are from consumers and then corporate and then home office.

10. How many customers do we have (unique customer IDs) in total and how much per region and state?

i. Total customers, Region wise.

QUERY:

```
select  
region,  
count(distinct customerid) as total_customers  
from superstore  
group by region  
order by total_customers desc;
```

OUTPUT:

| region  | total_customers |
|---------|-----------------|
| West    | 686             |
| East    | 674             |
| Central | 629             |
| South   | 512             |

Here we use distinct to get unique customer id and the above table shows the total customers in region wise and west is the high and the least is south.

ii. total customers,state wise.

QUERY:

```
select  
state,  
count(distinct customerid) as total_customers  
from superstore  
group by state  
order by total_customers desc;
```

OUTPUT:

| state          | total_customers |
|----------------|-----------------|
| California     | 577             |
| New York       | 415             |
| Texas          | 370             |
| Pennsylvania   | 257             |
| Illinois       | 237             |
| Washington     | 224             |
| Ohio           | 202             |
| Florida        | 181             |
| North Carolina | 122             |
| Virginia       | 107             |
| Michigan       | 106             |
| Arizona        | 100             |
| Tennessee      | 84              |
| Georgia        | 83              |
| Colorado       | 75              |
| Indiana        | 70              |

California and New York and Texas are having high customers which is more than 350.

#### 11. Customer rewards program.

say we want to build a loyalty and rewards program in the future. What customers spent the most with us? That generated the most sales. It is always important to cater for our best customers and see how we can provide more value to them as it is cheaper to keep a current customer than it is to acquire a new one. We will also check the total profits for further analysis.

QUERY:

```
select
customerid,
sum(sales) as total_sales,
sum(profit) as total_profit
from superstore
group by customerid
order by total_profit desc limit 10;
```

OUTPUT:

| customerid | total_sales | total_profit |
|------------|-------------|--------------|
| TC-20980   | 19052.22    | 8981.32      |
| RB-19360   | 15117.35    | 6976.09      |
| SC-20095   | 14142.34    | 5757.42      |
| HL-15040   | 12873.30    | 5622.43      |
| AB-10105   | 14473.57    | 5444.81      |
| TA-21385   | 14595.62    | 4703.80      |
| CM-12385   | 8954.01     | 3899.91      |
| KD-16495   | 8181.24     | 3038.58      |
| AR-10540   | 6608.45     | 2884.61      |
| DR-12940   | 8350.87     | 2869.08      |

## 12. Average shipping time per class and in total?

QUERY:

```
select
shipmode,
avg(shipdate-orderdate) as avg_shipping_time
from superstore
group by shipmode
order by avg_shipping_time;
```

OUTPUT:

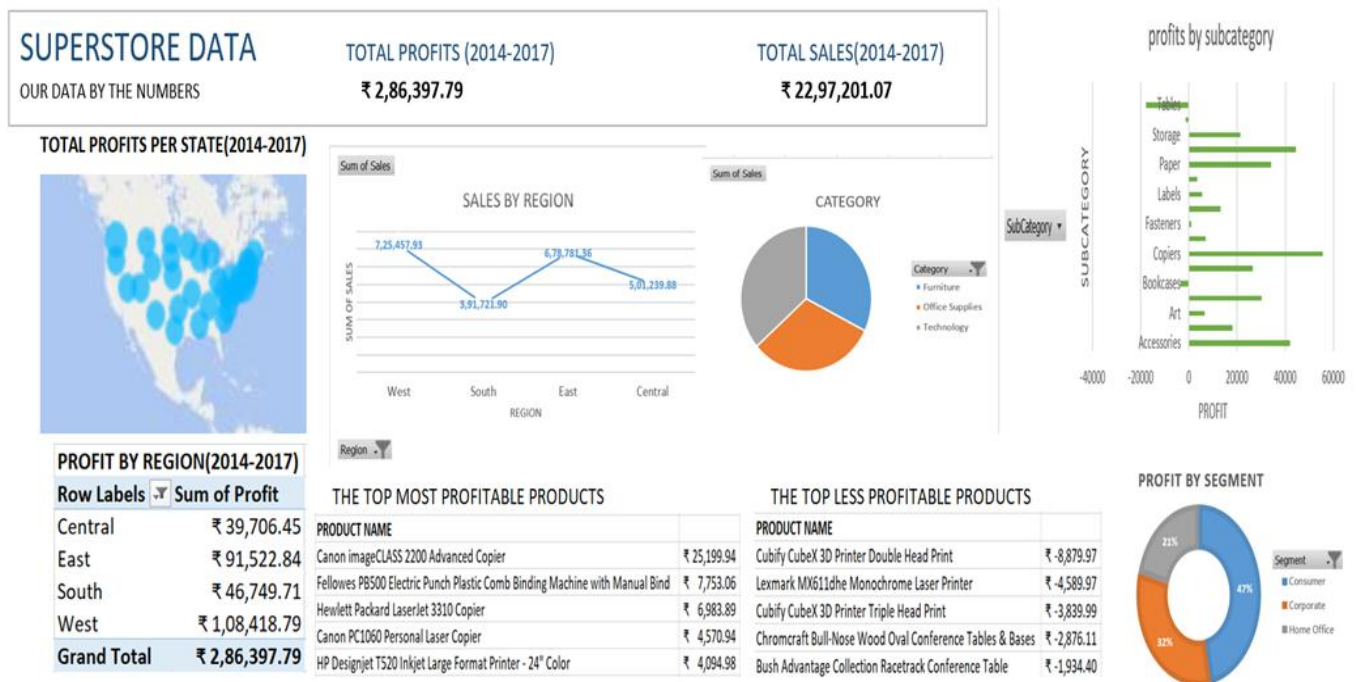
| shipmode       | avg_shipping_time |
|----------------|-------------------|
| Same Day       | 1867403.3149      |
| First Class    | 73425877.7633     |
| Second Class   | 120175835.4756    |
| Standard Class | 216409349.8660    |

Formula to find avg time - select avg(endtime - starttime) as average time. From this we can write

Avg(shipdate-orderdate) as average shipping time.

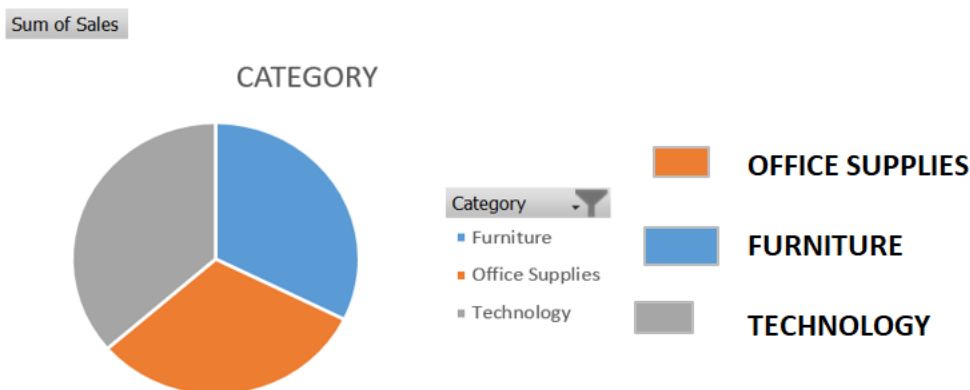
the average shipping time regardless of the shipping mode that is chosen.

# DASHBOARD FOR SUPERSTORE SALES DATA

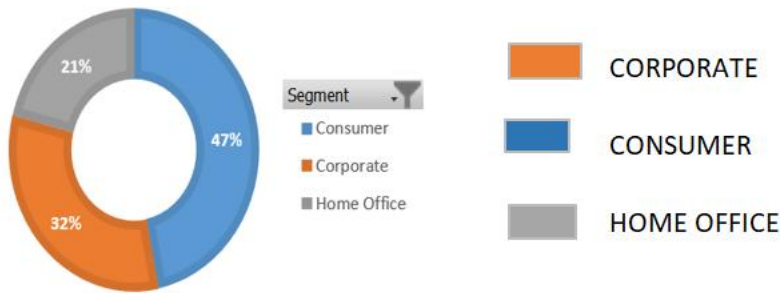


IN THE ABOVE PICTURE IT'S NOT TO CLEAR SO TO UNDERSTAND BETTER HAVE A LOOK BELOW

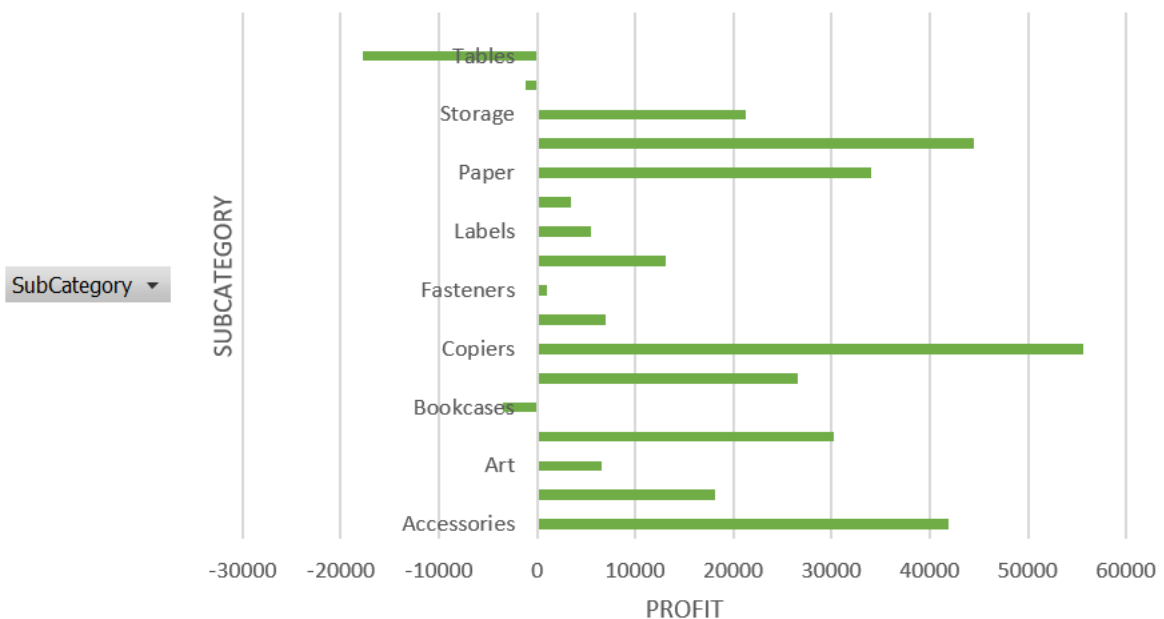
## This is about profits by category



PROFIT BY SEGMENT



profits by subcategory



THIS IS ABOUT THE DASHBOARD AND THIS DASHBOARD IS BUILD WITH THE HELP OF PIVOT TABLES AND BEFORE THAT WE HAVE TO CLEAN THE DATA.

## STEPS INVOLVED IN DATA CLEANING

1. MAKE A COPY OF DUPLICATE DATA AND PEFORM YOUR STEPS ON THAT DUPLICATE DATA
2. **REMOVE THE UNWANTED COLUMNS**
3. BY USING **FIND AND REPLACE (ctrl+f)** we changed the two different date format into same format like **by find "/" and replace with "-"** we get everthing in same format and then use right align on that particular column to get same order

4. Check if there are any duplicates in the given data if exist then click the **data tab** and then **select remove duplicates**
5. Check if there are any **null values** , by clicking **ctrl+g** on the selected data then go to **special** and then **blanks** then ok.
6. Add columns where ever needed like to get the **delivery days** insert a column and then write the following function **=shipdate - orderdate**.
7. Now with the help of this cleaned data we can make pivot tables , with the help of those pivot tables we can create dashboard with the help of charts, piecharts, bargraph, linegraph, donutgraph etc...
8. Select the **Profit and Sales** column then go to **Number** and then **Currency** and then **Rupees** and then select upto **two decimal places**.