

# AmazingMart DASHBOARD REPORT



## **Submitted By:**

Name: Ekam

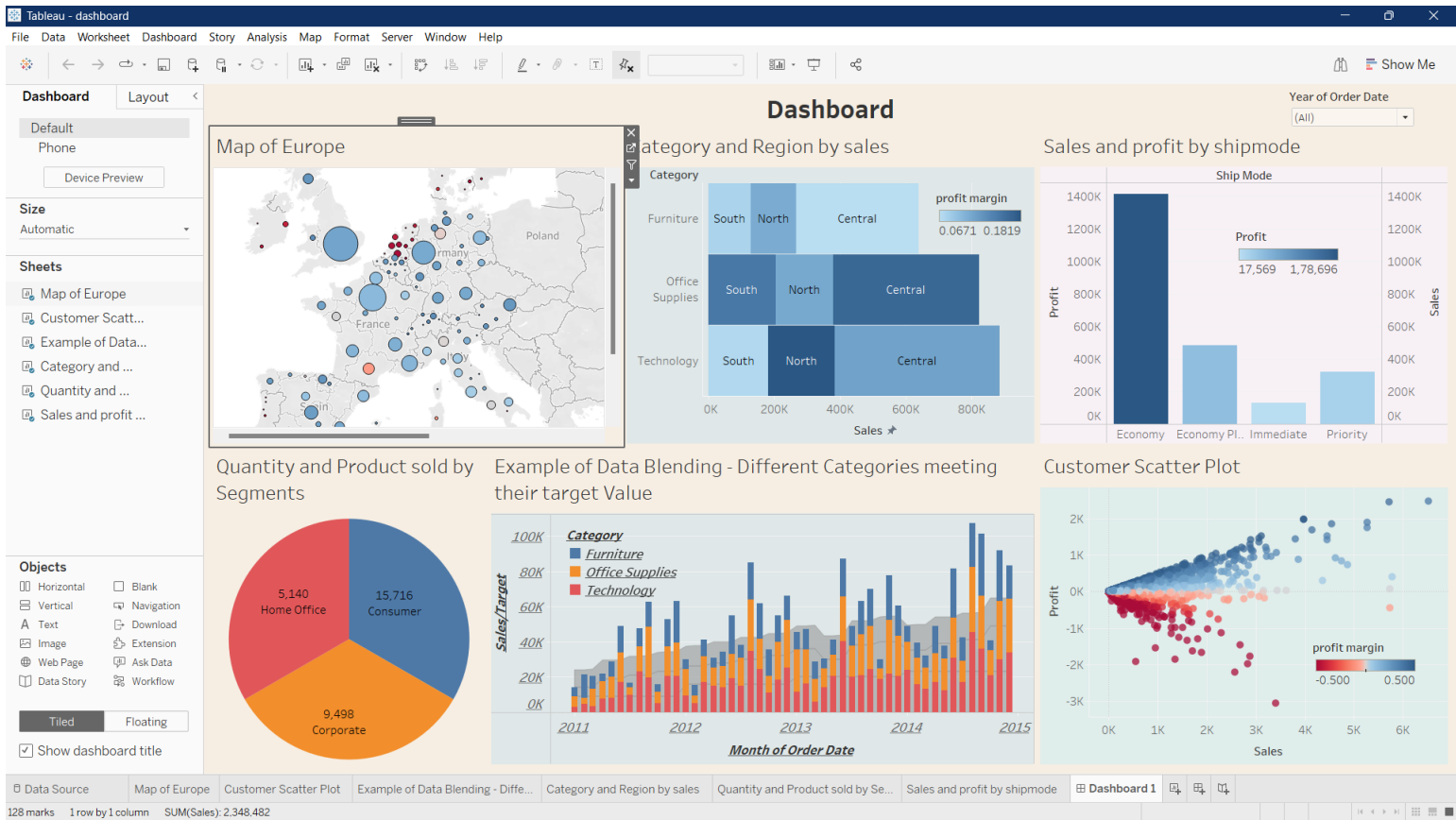
Rollno. :102003322

## **Submitted To:**

Kashish Goyal

July 2022 – December 2022

# 1) Dashboard:



## 2) Dataset used:

The table one of Data Set is related to how a certain store AmazingMart was performing across different States across the Europe

P1-AmazingMartEU2.xlsx - Microsoft Excel (Product Activation Failed)															
L18															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Order ID	Order Date	Customer Name	City	Country	Region	Segment	Ship Date	Ship Mode	State					
2	BN-2011-7407039	01-01-2011	Ruby Patel	Stockholm	Sweden	North	Home Office	05-01-2011	Economy Plus	Stockholm					
3	AZ-2011-9050313	03-01-2011	Summer Hayward	Southport	United Kir	North	Consumer	07-01-2011	Economy	England					
4	AZ-2011-6674300	04-01-2011	Devin Huddleston	Valence	France	Central	Consumer	08-01-2011	Economy	Auvergne-Rhône-Alpes					
5	BN-2011-2819714	04-01-2011	Mary Parker	Birmingham	United Kir	North	Corporate	09-01-2011	Economy	England					
6	AZ-2011-617423	05-01-2011	Daniel Burke	Echirolles	France	Central	Home Office	07-01-2011	Priority	Auvergne-Rhône-Alpes					
7	AZ-2011-2918397	07-01-2011	Fredrick Beveridge	La Seyne-sur-Mer	France	Central	Corporate	08-01-2011	Priority	Provence-Alpes-Côte d'Azur					
8	BN-2011-3248724	08-01-2011	Archer Hort	Toulouse	France	Central	Consumer	14-01-2011	Economy	Languedoc-Roussillon-Midi-Pyrénées					
9	AZ-2011-6712797	11-01-2011	Evlie Flockhart	Genoa	Italy	South	Consumer	16-01-2011	Economy	Liguria					
10	AZ-2011-4827146	11-01-2011	Faith Greenwood	Vienna	Austria	Central	Consumer	15-01-2011	Economy	Vienna					
11	AZ-2011-6439906	11-01-2011	Summer Hayward	Murcia	Spain	South	Consumer	15-01-2011	Economy	Murcia					
12	AZ-2011-7053593	11-01-2011	Gracie Powell	Woking	United Kir	North	Consumer	11-01-2011	Immediate	England					
13	AZ-2011-5702370	12-01-2011	Hershel Snyder	Lohne	Germany	Central	Corporate	19-01-2011	Economy	Lower Saxony					
14	AZ-2011-9927716	12-01-2011	Julia Martell	Leicester	United Kir	North	Home Office	17-01-2011	Economy	England					
15	AZ-2011-2222024	12-01-2011	Viola Watson	Sheffield	United Kir	North	Consumer	15-01-2011	Priority	England					
16	BN-2011-4913858	13-01-2011	Julian Dobie	Dordrecht	Netherlan	Central	Consumer	19-01-2011	Economy	South Holland					
17	BN-2011-2807470	13-01-2011	Rose Heap	Gothenburg	Sweden	North	Consumer	20-01-2011	Economy	Västra Götaland					
18	AZ-2011-5960662	14-01-2011	Ella Troy	Vienna	Austria	Central	Home Office	19-01-2011	Economy	Vienna					
19	AZ-2011-7675351	15-01-2011	Everett Dunbar	Langen	Germany	Central	Corporate	20-01-2011	Economy Plus	Lower Saxony					
20	BN-2011-3770060	17-01-2011	Georgia Bermingham	Copenhagen	Denmark	North	Home Office	23-01-2011	Economy	Hovedstaden					
21	AZ-2011-7419210	18-01-2011	Christopher Gool	Gandia	Spain	South	Corporate	21-01-2011	Priority	Valenciana					
22	AZ-2011-1816950	18-01-2011	John Baca	Esbjerg	Denmark	North	Consumer	23-01-2011	Economy Plus	South Denmark					
23	AZ-2011-3059419	19-01-2011	Kai Leonard	Sesto San Giovanni	Italy	South	Corporate	21-01-2011	Priority	Lombardy					
24	AZ-2011-5342265	19-01-2011	Jennifer Mattingly	Trapani	Italy	South	Home Office	20-01-2011	Priority	Sicily					
25	AZ-2011-2002251	20-01-2011	Nathan Iqbal	Villiers-sur-Marne	France	Central	Consumer	25-01-2011	Economy	Ile-de-France					
26	AZ-2011-5357101	21-01-2011	Noah Chamberlain	Bielefeld	Germany	Central	Consumer	26-01-2011	Economy	North Rhine-Westphalia					
27	AZ-2011-2245674	22-01-2011	Dylan Disney	Leuven	Belgium	Central	Home Office	26-01-2011	Economy	Flemish Brabant					
28	AZ-2011-8034411	22-01-2011	Melissa Bean	Prato	Italy	South	Home Office	26-01-2011	Economy	Tuscany					
29	AZ-2011-6684426	24-01-2011	Vaughn Gibbs	Gela	Italy	South	Home Office	26-01-2011	Economy Plus	Sicily					
30	BN-2011-7883641	24-01-2011	William Horton	Bologna	Italy	South	Consumer	26-01-2011	Priority	Emilia-Romagna					
31	AZ-2011-4205736	25-01-2011	David Harney	Menden	Germany	Central	Corporate	01-02-2011	Economy	North Rhine-Westphalia					
32	AZ-2011-5010109	25-01-2011	Walter Coley	Maisons-Alfort	France	Central	Consumer	30-01-2011	Economy	Ile-de-France					
33	AZ-2011-201891	26-01-2011	Lori Miller	Madrid	Spain	South	Consumer	30-01-2011	Economy	Madrid					
34	AZ-2011-5708655	26-01-2011	Hayley Baldwinson	Oslo	Norway	North	Consumer	30-01-2011	Economy	Oslo					
35	BN-2011-6722454	26-01-2011	Joseph Locke	Lisbon	Portugal	South	Corporate	30-01-2011	Economy	Lisboa					
36	BN-2011-486854	28-01-2011	Gracie Hicks	Draguignan	France	Central	Consumer	03-02-2011	Economy	Provence-Alpes-Côte d'Azur					
37	AZ-2011-2825684	01-02-2011	Hollie Norris	Halle	Germany	Central	Consumer	07-02-2011	Economy	North Rhine-Westphalia					
38	AZ-2011-494581	01-02-2011	Kiara Allen	Parma	Italy	South	Consumer	05-02-2011	Economy	Emilia-Romagna					
39	AZ-2011-838467	02-02-2011	Ronald Everson	Dresden	Germany	Central	Corporate	05-02-2011	Priority	Saxony					
40	AZ-2011-4987681	02-02-2011	Daryl Claypool	Seville	Spain	South	Corporate	06-02-2011	Economy Plus	Andalusia					

This table one of Data Set is related to PROFIT,SALES,QUANTITY,DISCOUNT on various products over the Europe by different sort of consumers.In this table there is a duplicacy of Order ID of a particular Customer.

P1-AmazingMartEU2.xlsx - Microsoft Excel (Product Activation Failed)													
Order ID													
Order ID	Product Name	Discount	Sales	Profit	Quantity	Category	Sub-Category						
BN-2011-7407039	Enermax Note Cards, Premium	0.5	\$45.00	-\$26.00	3	Office Supplies	Paper						
AZ-2011-9050313	Dania Corner Shelving, Traditional	0	\$854.00	\$290.00	7	Furniture	Bookcases						
AZ-2011-6674300	Binney & Smith Sketch Pad, Easy-Erase	0	\$140.00	\$21.00	3	Office Supplies	Art						
BN-2011-2819714	Boston Markers, Easy-Erase	0.5	\$27.00	-\$22.00	2	Office Supplies	Art						
BN-2011-2819714	Eldon Folders, Single Width	0.5	\$17.00	-\$1.00	2	Office Supplies	Storage						
AZ-2011-617423	Binney & Smith Pencil Sharpener, Water Co	0	\$90.00	\$21.00	3	Office Supplies	Art						
AZ-2011-617423	Sanford Canvas, Fluorescent	0	\$207.00	\$77.00	4	Office Supplies	Art						
AZ-2011-2918397	Bush Floating Shelf Set, Pine	0.1	\$155.00	\$36.00	1	Furniture	Bookcases						
AZ-2011-2918397	Accos Thumb Tacks, Assorted Sizes	0	\$33.00	\$2.00	3	Office Supplies	Fasteners						
AZ-2011-2918397	Smead Lockers, Industrial	0.1	\$716.00	\$143.00	4	Office Supplies	Storage						
BN-2011-3248724	Ikea Classic Bookcase, Metal	0.6	\$987.00	-\$1,012.00	6	Furniture	Bookcases						
BN-2011-3248724	Binney & Smith Sketch Pad, Blue	0.5	\$116.00	-\$56.00	5	Office Supplies	Art						
AZ-2011-7053593	SAFCO Executive Leather Armchair, Red	0	\$1,384.00	\$14.00	3	Furniture	Chairs						
AZ-2011-7053593	Binney & Smith Canvas, Blue	0	\$103.00	\$20.00	2	Office Supplies	Art						
AZ-2011-6439906	Bevis Training Table, with Bottom Storage	0.6	\$268.00	-\$342.00	2	Furniture	Tables						
AZ-2011-4827146	Boston Canvas, Fluorescent	0	\$55.00	\$10.00	1	Office Supplies	Art						
AZ-2011-4827146	Smead Trays, Single Width	0	\$97.00	\$31.00	2	Office Supplies	Storage						
AZ-2011-6439906	Novimex File Folder Labels, Alphabetical	0	\$40.00	\$6.00	5	Office Supplies	Labels						
AZ-2011-6712797	Ibico Hole Reinforcements, Recycled	0	\$22.00	\$7.00	3	Office Supplies	Binders						
AZ-2011-2222024	Green Bar Note Cards, Multicolor	0.5	\$34.00	-\$6.00	2	Office Supplies	Paper						
AZ-2011-9927716	Hon Chairmat, Adjustable	0	\$290.00	\$70.00	5	Furniture	Chairs						
AZ-2011-5702370	Ikea Stackable Bookrack, Traditional	0.1	\$552.00	\$165.00	5	Furniture	Bookcases						
AZ-2011-5702370	Binney & Smith Canvas, Blue	0	\$257.00	\$49.00	5	Office Supplies	Art						
AZ-2011-5702370	Ibico Index Tab, Clear	0	\$17.00	\$6.00	2	Office Supplies	Binders						
AZ-2011-5702370	Epson Printer, White	0	\$522.00	\$21.00	2	Technology	Machines						
BN-2011-4913858	Wilson Jones Hole Reinforcements, Durable	0.5	\$9.00	-\$3.00	3	Office Supplies	Binders						
BN-2011-4913858	Harbour Creations Legal Exhibit Labels, Lase	0.5	\$22.00	-\$12.00	4	Office Supplies	Labels						

This table one of Data Set is related to targets of three different departments. It gives us the targets for the different months. will compare how the departments are meeting or not their target value.

Month of Order Date	Category	Target
Jan-11	Furniture	\$10,000.00
Feb-11	Furniture	\$10,100.00
Mar-11	Furniture	\$10,300.00
Apr-11	Furniture	\$10,400.00
May-11	Furniture	\$10,500.00
Jun-11	Furniture	\$10,600.00
Jul-11	Furniture	\$10,800.00
Aug-11	Furniture	\$10,900.00
Sep-11	Furniture	\$11,000.00
Oct-11	Furniture	\$11,100.00
Nov-11	Furniture	\$11,300.00
Dec-11	Furniture	\$11,400.00
Jan-12	Furniture	\$11,500.00
Feb-12	Furniture	\$11,600.00
Mar-12	Furniture	\$11,800.00
Apr-12	Furniture	\$11,900.00
May-12	Furniture	\$12,000.00
Jun-12	Furniture	\$12,100.00
Jul-12	Furniture	\$12,300.00
Aug-12	Furniture	\$12,400.00
Sep-12	Furniture	\$12,500.00
Oct-12	Furniture	\$12,600.00
Nov-12	Furniture	\$12,800.00
Dec-12	Furniture	\$12,900.00
Jan-13	Furniture	\$13,000.00
Feb-13	Furniture	\$13,100.00
Mar-13	Furniture	\$13,300.00
Apr-13	Furniture	\$13,400.00
May-13	Furniture	\$13,500.00
Jun-13	Furniture	\$13,600.00
Jul-13	Furniture	\$13,800.00
Aug-13	Furniture	\$13,900.00

## 2.1) Reading the excel files

```
#reading data from excel files

install.packages('readxl', repos="http://cran.rstudio.com/")
install.packages("writexl")
library('readxl')
library('writexl')

#display ALL THE SHEET NAMES
#there are 4 sheets within excel sheet
excel_sheets("D:\\users 1\\documents\\R_data_science\\tableau\\P1-AmazingMartEU2.xlsx")

#read data from the sheets using read_excel
df <- read_excel("D:\\users 1\\documents\\R_data_science\\tableau\\P1-AmazingMartEU2.xlsx", sheet = 'ListOfOrders')
head(df)
view(df)

df1 <- read_excel("D:\\users 1\\documents\\R_data_science\\tableau\\P1-AmazingMartEU2.xlsx", sheet = 'OrderBreakdown')
head(df1)
view(df1)

df2 <- read_excel("D:\\users 1\\documents\\R_data_science\\tableau\\P1-AmazingMartEU2.xlsx", sheet = 'SalesTargets')
head(df2)
view(df2)
```

```

RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)

Source
Console Terminal Background Jobs

R 4.2.1 ~ /R_data_science/tableau/
> df <- read_excel("D:\\users 1\\documents\\R_data_science\\tableau\\P1-AmazingMartEU2.xlsx", sheet = 'ListofOrders')
> head(df)
# A tibble: 6 x 10
  `Order ID` `Order Date` `Customer Name` City Country Region Segment `Ship Date` `Ship Mode` State
  <chr> <dtm> <chr> <chr> <chr> <chr> <chr> <dtm> <chr> <chr>
1 BN-2011-7407039 2011-01-01 00:00:00 Ruby Patel Stockholm Sweden North Home Office 2011-01-05 00:00:00 Economy Plus Stockh...
2 AZ-2011-9050313 2011-01-03 00:00:00 Summer Hayward Southport United Kingdom North Consumer 2011-01-07 00:00:00 Economy England
3 AZ-2011-6674300 2011-01-04 00:00:00 Devin Huddleston Valence France Central Consumer 2011-01-08 00:00:00 Economy Auverg...
4 BN-2011-2819714 2011-01-04 00:00:00 Mary Parker Birmingham United Kingdom North Corporate 2011-01-09 00:00:00 Economy England
5 AZ-2011-617423 2011-01-05 00:00:00 Daniel Burke Echirolles France Central Home Office 2011-01-07 00:00:00 Priority Auverg...
6 AZ-2011-2918397 2011-01-07 00:00:00 Fredrick Beveridge La Seyne-sur-Mer France Central Corporate 2011-01-08 00:00:00 Priority Proven...
> View(df)
> df1 <- read_excel("D:\\users 1\\documents\\R_data_science\\tableau\\P1-AmazingMartEU2.xlsx", sheet = 'OrderBreakdown')
> head(df1)
# A tibble: 6 x 8
  `Order ID` `Product Name` Discount Sales Profit Quantity Category `Sub-Category`
  <chr> <chr> <dbl> <dbl> <dbl> <dbl> <chr> <chr>
1 BN-2011-7407039 Enermax Note Cards, Premium 0.5 45 -26 3 Office Supplies Paper
2 AZ-2011-9050313 Dania Corner Shelving, Traditional 0 854 290 7 Furniture Bookcases
3 AZ-2011-6674300 Binney & Smith Sketch Pad, Easy-Erase 0 140 21 3 Office Supplies Art
4 BN-2011-2819714 Boston Markers, Easy-Erase 0.5 27 -22 2 Office Supplies Art
5 BN-2011-2819714 Eldon Folders, Single Width 0.5 17 -1 2 Office Supplies Storage
6 AZ-2011-617423 Binney & Smith Pencil Sharpener, Water Color 0 90 21 3 Office Supplies Art
> View(df1)
> df2 <- read_excel("D:\\users 1\\documents\\R_data_science\\tableau\\P1-AmazingMartEU2.xlsx", sheet = 'SalesTargets')
> head(df2)
# A tibble: 6 x 3
  `Month of Order Date` Category Target
  <dtm> <chr> <dbl>
1 2011-01-01 00:00:00 Furniture 10000
2 2011-02-01 00:00:00 Furniture 10100
3 2011-03-01 00:00:00 Furniture 10300
4 2011-04-01 00:00:00 Furniture 10400
5 2011-05-01 00:00:00 Furniture 10500
6 2011-06-01 00:00:00 Furniture 10600

```

### 3) joining of tables

# joining/combination of two tables of my dataset

```
library(dplyr)
```

```
#inner join
```

```
d.inner <- dplyr::inner_join(df,df1,by="Order ID")
```

```
View(d.inner)
```

```
dim(d.inner)
```

```
#left join
```

```
d.left <- dplyr::left_join(df,df1,by="Order ID")
```

```
View(d.left)
```

```
dim(d.left)
```

```
#right join
```

```
d.right <- dplyr::right_join(df,df1,by="Order ID")
```

```
View(d.right)
```

```
dim(d.right)
```

```
#full outer join -> union of two
```

```
d.full <- dplyr::full_join(df,df1,by="Order ID")
```

```
View(d.full)
```

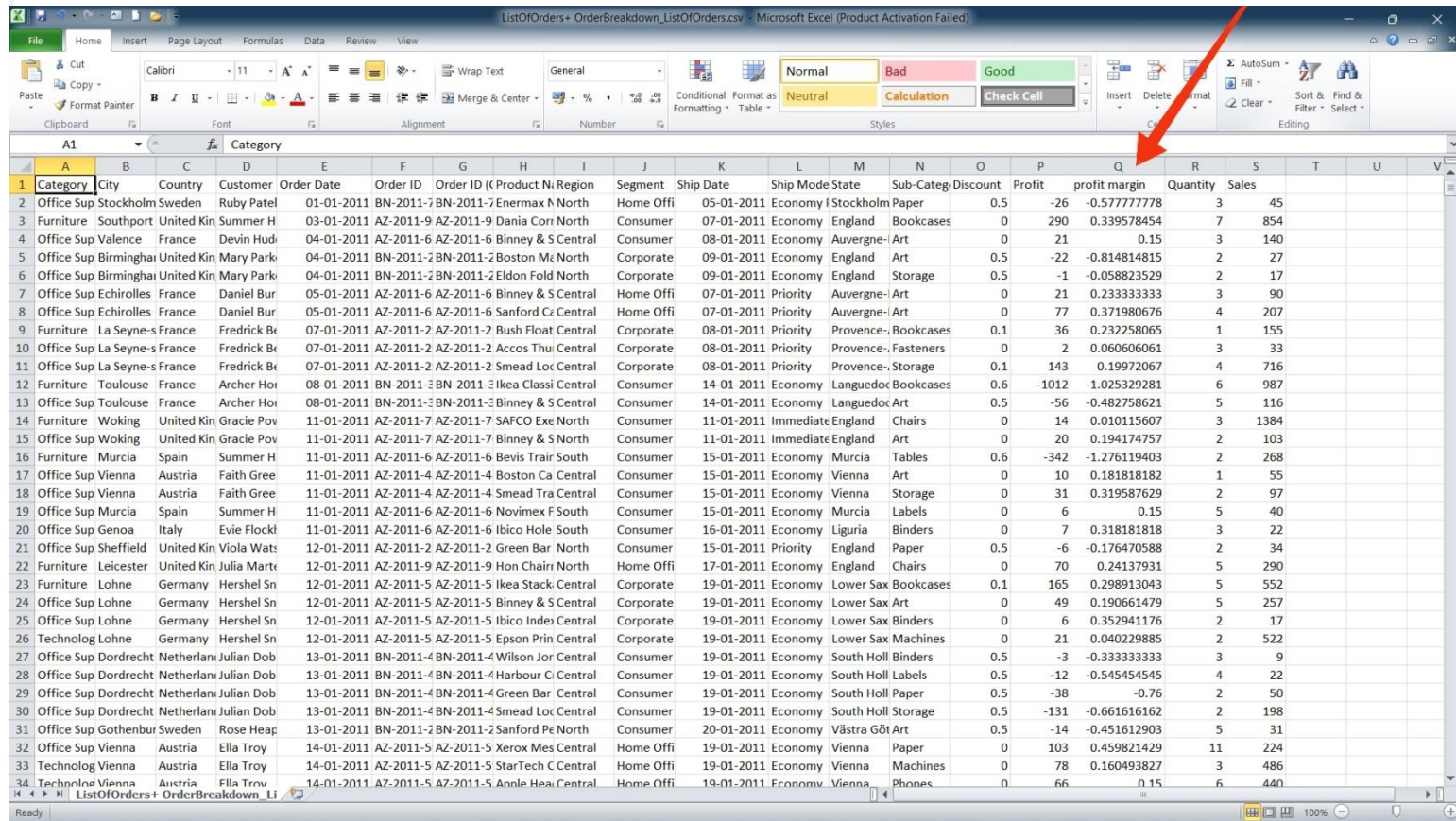
```
dim(d.full)
```



## 5) Calculated field in my Table

#calculated field in R

```
d.inner$profit_margin <- d.inner[,14]/d.inner[,13]
view(d.inner)
```



The screenshot shows a Microsoft Excel spreadsheet titled "ListOfOrders+ OrderBreakdown\_ListOfOrders.csv". The spreadsheet contains a table with 26 columns (A to V) and 34 rows of data. The columns are: A (Category), B (City), C (Country), D (Customer), E (Order Date), F (Order ID), G (Order ID (Product N)), H (Region), I (Segment), J (Ship Date), K (Ship Mode), L (State), M (Sub-Categ), N (Discount), O (Profit), P (profit margin), Q (Quantity), R (Sales), S (T), T (U), and V (V). The formula bar for cell Q2 shows the formula =P2/Q2, which is the calculated field for profit margin. A red arrow points to the formula bar.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
Category	City	Country	Customer	Order Date	Order ID	Order ID (Product N)	Region	Segment	Ship Date	Ship Mode	State	Sub-Categ	Discount	Profit	profit margin	Quantity	Sales				
Office Sup	Stockholm	Sweden	Ruby Patel	01-01-2011	BN-2011-7	BN-2011-7	Enermax N	North	Home Offi	05-01-2011	Economy	Stockholm Paper	0.5	-26	-0.577777778	3	45				
Furniture	Southport	United Kin	Summer H	03-01-2011	AZ-2011-9	AZ-2011-9	Dania Cori	North	Consumer	07-01-2011	Economy	England Bookcases	0	290	0.339578454	7	854				
Office Sup	Valence	France	Devin Hud	04-01-2011	AZ-2011-6	AZ-2011-6	Binney & S	Central	Consumer	08-01-2011	Economy	Auvergne- Art	0	21	0.15	3	140				
Office Sup	Birmingham	United Kin	Mary Parki	04-01-2011	BN-2011-2	BN-2011-2	Boston Me	North	Corporate	09-01-2011	Economy	England Art	0.5	-22	-0.814814815	2	27				
Office Sup	Birmingham	United Kin	Mary Parki	04-01-2011	BN-2011-2	BN-2011-2	Eldon Fold	North	Corporate	09-01-2011	Economy	England Storage	0.5	-1	-0.058823529	2	17				
Office Sup	Echirolles	France	Daniel Bur	05-01-2011	AZ-2011-6	AZ-2011-6	Binney & S	Central	Home Offi	07-01-2011	Priority	Auvergne- Art	0	21	0.233333333	3	90				
Office Sup	Echirolles	France	Daniel Bur	05-01-2011	AZ-2011-6	AZ-2011-6	Sanford C	Central	Home Offi	07-01-2011	Priority	Auvergne- Art	0	77	0.371980676	4	207				
Furniture	La Seyne-s	France	Fredrick Be	07-01-2011	AZ-2011-2	AZ-2011-2	Bush Float	Central	Corporate	08-01-2011	Priority	Provence- Bookcases	0.1	36	0.232258065	1	155				
Office Sup	La Seyne-s	France	Fredrick Be	07-01-2011	AZ-2011-2	AZ-2011-2	Accos Thu	Central	Corporate	08-01-2011	Priority	Provence- Fasteners	0	2	0.060606061	3	33				
Office Sup	La Seyne-s	France	Fredrick Be	07-01-2011	AZ-2011-2	AZ-2011-2	Smead Loc	Central	Corporate	08-01-2011	Priority	Provence- Storage	0.1	143	0.19972067	4	716				
Furniture	Toulouse	France	Archer Hoi	08-01-2011	BN-2011-3	BN-2011-3	Ikea Classi	Central	Consumer	14-01-2011	Economy	Languedoc Bookcases	0.6	-1012	-1.025329281	6	987				
Office Sup	Toulouse	France	Archer Hoi	08-01-2011	BN-2011-3	BN-2011-3	Binney & S	Central	Consumer	14-01-2011	Economy	Languedoc Art	0.5	-56	-0.482758621	5	116				
Furniture	Woking	United Kin	Gracie Pov	11-01-2011	AZ-2011-7	AZ-2011-7	SAFCO Exe	North	Consumer	11-01-2011	Immediate	England Chairs	0	14	0.010115607	3	1384				
Office Sup	Woking	United Kin	Gracie Pov	11-01-2011	AZ-2011-7	AZ-2011-7	Binney & S	North	Consumer	11-01-2011	Immediate	England Art	0	20	0.194174757	2	103				
Furniture	Murcia	Spain	Summer H	11-01-2011	AZ-2011-6	AZ-2011-6	Bevis Trair	South	Consumer	15-01-2011	Economy	Murcia Tables	0.6	-342	-1.276119403	2	268				
Office Sup	Vienna	Austria	Faith Gree	11-01-2011	AZ-2011-4	AZ-2011-4	Boston Ca	Central	Consumer	15-01-2011	Economy	Vienna Art	0	10	0.181818182	1	55				
Office Sup	Vienna	Austria	Faith Gree	11-01-2011	AZ-2011-4	AZ-2011-4	Smead Tra	Central	Consumer	15-01-2011	Economy	Vienna Storage	0	31	0.319587629	2	97				
Office Sup	Murcia	Spain	Summer H	11-01-2011	AZ-2011-6	AZ-2011-6	Novimex F	South	Consumer	15-01-2011	Economy	Murcia Labels	0	6	0.15	5	40				
Office Sup	Genoa	Italy	Evie Flocki	11-01-2011	AZ-2011-6	AZ-2011-6	Ibico Hole	South	Consumer	16-01-2011	Economy	Liguria Binders	0	7	0.318181818	3	22				
Office Sup	Sheffield	United Kin	Viola Wats	12-01-2011	AZ-2011-2	AZ-2011-2	Green Bar	North	Consumer	15-01-2011	Priority	England Paper	0.5	-6	-0.176470588	2	34				
Furniture	Leicester	United Kin	Julia Martx	12-01-2011	AZ-2011-9	AZ-2011-9	Hon Chairi	North	Home Offi	17-01-2011	Economy	England Chairs	0	70	0.24137931	5	290				
Furniture	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5	AZ-2011-5	Ikea Stack	Central	Corporate	19-01-2011	Economy	Lower Sax Bookcases	0.1	165	0.298913043	5	552				
Office Sup	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5	AZ-2011-5	Binney & S	Central	Corporate	19-01-2011	Economy	Lower Sax Art	0	49	0.190661479	5	257				
Office Sup	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5	AZ-2011-5	Ibico Index	Central	Corporate	19-01-2011	Economy	Lower Sax Binders	0	6	0.352941176	2	17				
Technolog	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5	AZ-2011-5	Epson Prin	Central	Corporate	19-01-2011	Economy	Lower Sax Machines	0	21	0.040229885	2	522				
Office Sup	Dordrecht	Netherlandi	Julian Dob	13-01-2011	BN-2011-4	BN-2011-4	Wilson Jor	Central	Consumer	19-01-2011	Economy	South Holl Binders	0.5	-3	-0.333333333	3	9				
Office Sup	Dordrecht	Netherlandi	Julian Dob	13-01-2011	BN-2011-4	BN-2011-4	Harbour C	Central	Consumer	19-01-2011	Economy	South Holl Labels	0.5	-12	-0.545454545	4	22				
Office Sup	Dordrecht	Netherlandi	Julian Dob	13-01-2011	BN-2011-4	BN-2011-4	Green Bar	Central	Consumer	19-01-2011	Economy	South Holl Paper	0.5	-38	-0.76	2	50				
Office Sup	Dordrecht	Netherlandi	Julian Dob	13-01-2011	BN-2011-4	BN-2011-4	Smead Loc	Central	Consumer	19-01-2011	Economy	South Holl Storage	0.5	-131	-0.661616162	2	198				
Office Sup	Gothenbur	Sweden	Rose Heap	13-01-2011	BN-2011-2	BN-2011-2	Sanford Pe	North	Consumer	20-01-2011	Economy	Västra Göt Art	0.5	-14	-0.451612903	5	31				
Office Sup	Vienna	Austria	Ella Troy	14-01-2011	AZ-2011-5	AZ-2011-5	Xerox Mes	Central	Home Offi	19-01-2011	Economy	Vienna Paper	0	103	0.459821429	11	224				
Technolog	Vienna	Austria	Ella Troy	14-01-2011	AZ-2011-5	AZ-2011-5	StarTech C	Central	Home Offi	19-01-2011	Economy	Vienna Machines	0	78	0.160493827	3	486				
Technolog	Vienna	Austria	Ella Troy	14-01-2011	AZ-2011-5	AZ-2011-5	Annie Heal	Central	Home Offi	19-01-2011	Economy	Vienna Phones	0	66	0.15	6	440				

## 6) Data Cleaning using R:

#Data cleaning

```
for(i in 2:ncol(d.inner)) {
  d.inner[,i][is.na(d.inner[,i])]<- mean(d.inner[,i],na.rm=TRUE)
}
```

The screenshot shows a Microsoft Excel spreadsheet titled 'ListOfOrders - OrderBreakdown'. The data is organized into columns A through S. The first 20 columns (A-T) contain order details, and the last three (U-W) contain financial metrics. Red arrows highlight 'NULL' values in the 'Discount' column (column U) for rows 10, 16, 24, and 29.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
	Category	City	Country	Customer	Order Date	Order ID	Order ID (Order	Product Name	Region	Segment	Ship Date	Ship Mode	State	Sub-Category	Discount	Profit	profit margin	Quantity	Sales
1	Office Sup	Stockholm	Sweden	Ruby Patel	01-01-2011	BN-2011-7407039	BN-2011-74070	Enernax Note Cards, Pri	North	Home Offi	05-01-2011	Economy	I Stockholm	Paper	0.5	-26	-0.577777778	3	45
2	Furniture	Southport	United Kin	Summer H	03-01-2011	AZ-2011-9050313	AZ-2011-90503	Dania Corner Shelving, T	North	Consumer	07-01-2011	Economy	England	Bookcases	0	290	0.339578454	7	854
3	Office Sup	Valence	France	Devin Hud	04-01-2011	AZ-2011-6674300	AZ-2011-66743	Binney & Smith Sketch P	Central	Consumer	08-01-2011	Economy	Auvergne-	Art	0	21	0.15	3	140
4	Office Sup	Birmingham	United Kin	Mary Park	04-01-2011	BN-2011-2819714	BN-2011-28197	Boston Markers, Easy-Er	North	Corporate	09-01-2011	Economy	England	Art	0.5	-22	-0.814814815	2	27
5	Office Sup	Birmingham	United Kin	Mary Park	04-01-2011	BN-2011-2819714	BN-2011-28197	Eldon Folders, Single Wik	North	Corporate	09-01-2011	Economy	England	Storage	0.5	-1	-0.058823529	2	17
6	Office Sup	Echirolles	France	Daniel Bur	05-01-2011	AZ-2011-617423	AZ-2011-61742	Binney & Smith Pencil Sh	Central	Home Offi	07-01-2011	Priority	Auvergne-	Art	NULL	21	0.233333333	3	90
7	Office Sup	Echirolles	France	Daniel Bur	05-01-2011	AZ-2011-617423	AZ-2011-61742	Sanford Canvas, Fluoresc	Central	Home Offi	07-01-2011	Priority	Auvergne-	Art	0	77	0.371980676	4	207
8	Furniture	La Seyne-s	France	Fredrick Be	07-01-2011	AZ-2011-2918397	AZ-2011-29183	Bush Floating Shelf Set, I	Central	Corporate	08-01-2011	Priority	Provence-	Bookcases	NULL	36	0.232258065	1	155
9	Office Sup	La Seyne-s	France	Fredrick Be	07-01-2011	AZ-2011-2918397	AZ-2011-29183	Accos Thumb Tacks, Assi	Central	Corporate	08-01-2011	Priority	Provence-	Fasteners	0	2	0.060606061	3	33
10	Office Sup	La Seyne-s	France	Fredrick Be	07-01-2011	AZ-2011-2918397	AZ-2011-29183	Smead Lockers, Industri	Central	Corporate	08-01-2011	Priority	Provence-	Storage	0.1	143	0.19972067	4	716
11	Furniture	Toulouse	France	Archer Hoi	08-01-2011	BN-2011-3248724	BN-2011-32487	Ikea Classic Bookcase, N	Central	Consumer	14-01-2011	Economy	Languedoc	Bookcases	0.6	-1012	-1.025329281	6	987
12	Office Sup	Toulouse	France	Archer Hoi	08-01-2011	BN-2011-3248724	BN-2011-32487	Binney & Smith Sketch P	Central	Consumer	14-01-2011	Economy	Languedoc	Art	0.5	-56	-0.482758621	5	116
13	Furniture	Woking	United Kin	Gracie Pov	11-01-2011	AZ-2011-7053593	AZ-2011-70535	SAFCO Executive Leathe	North	Consumer	11-01-2011	Immediate	England	Chairs	0	14	0.010115607	3	1384
14	Office Sup	Woking	United Kin	Gracie Pov	11-01-2011	AZ-2011-7053593	AZ-2011-70535	Binney & Smith Canvas, I	North	Consumer	11-01-2011	Immediate	England	Art	0	20	0.194174757	2	103
15	Furniture	Murcia	Spain	Summer H	11-01-2011	AZ-2011-6439906	AZ-2011-64399	Bevis Training Table, wit	South	Consumer	15-01-2011	Economy	Murcia	Tables	NULL	-342	-1.276119403	2	268
16	Office Sup	Vienna	Austria	Faith Gree	11-01-2011	AZ-2011-4827146	AZ-2011-48271	Ikea Classic Bookcase, N	Central	Consumer	15-01-2011	Economy	Vienna	Art	0	10	0.181818182	1	55
17	Office Sup	Vienna	Austria	Faith Gree	11-01-2011	AZ-2011-4827146	AZ-2011-48271	Smead Trays, Single Wid	Central	Consumer	15-01-2011	Economy	Vienna	Storage	0	31	0.319587629	2	97
18	Office Sup	Murcia	Spain	Summer H	11-01-2011	AZ-2011-6439906	AZ-2011-64399	Novimex File Folder Labi	South	Consumer	15-01-2011	Economy	Murcia	Labels	0	6	0.15	5	40
19	Office Sup	Genoa	Italy	Evie Flock	11-01-2011	AZ-2011-6712797	AZ-2011-67127	Ibico Hole Reinforceme	South	Consumer	16-01-2011	Economy	Liguria	Binders	0	7	0.318181818	3	22
20	Office Sup	Sheffield	United Kin	Viola Wats	12-01-2011	AZ-2011-2222024	AZ-2011-22220	Green Bar Note Cards, N	North	Consumer	15-01-2011	Priority	England	Paper	0.5	-6	-0.176470588	2	34
21	Furniture	Leicester	United Kin	Julia Mart	12-01-2011	AZ-2011-9927716	AZ-2011-99277	Hon Chairmat, Adjustabl	North	Home Offi	17-01-2011	Economy	England	Chairs	0	70	0.24137931	5	290
22	Furniture	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5702370	AZ-2011-57023	Ikea Stackable Bookrack	Central	Corporate	19-01-2011	Economy	Lower Sax	Bookcases	NULL	165	0.298913043	5	552
23	Office Sup	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5702370	AZ-2011-57023	Binney & Smith Canvas, I	Central	Corporate	19-01-2011	Economy	Lower Sax	Art	0	49	0.190661479	5	257
24	Office Sup	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5702370	AZ-2011-57023	Ibico Index Tab, Clear	Central	Corporate	19-01-2011	Economy	Lower Sax	Binders	0	6	0.352941176	2	17
25	Technolog	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5702370	AZ-2011-57023	Epson Printer, White	Central	Corporate	19-01-2011	Economy	Lower Sax	Machines	0	21	0.040229885	2	522
26	Office Sup	Dordrecht	Netherlan	Julian Dob	13-01-2011	BN-2011-4913858	BN-2011-49138	Wilson Jones Hole Reinf	Central	Consumer	19-01-2011	Economy	South Holl	Binders	NULL	-3	-0.333333333	3	9
27	Office Sup	Dordrecht	Netherlan	Julian Dob	13-01-2011	BN-2011-4913858	BN-2011-49138	Harbour Creations Legal	Central	Consumer	19-01-2011	Economy	South Holl	Labels	0.5	-12	-0.545454545	4	22
28	Office Sup	Dordrecht	Netherlan	Julian Dob	13-01-2011	BN-2011-4913858	BN-2011-49138	Green Bar Cards & Envel	Central	Consumer	19-01-2011	Economy	South Holl	Paper	0.5	-38	-0.76	2	50
29	Office Sup	Dordrecht	Netherlan	Julian Dob	13-01-2011	BN-2011-4913858	BN-2011-49138	Smead Lockers, Blue	Central	Consumer	19-01-2011	Economy	South Holl	Storage	0.5	-131	-0.661616162	2	198
30	Office Sup	Gothenbur	Sweden	Rose Heap	13-01-2011	BN-2011-2807470	BN-2011-28074	Sanford Pens, Fluoresce	North	Consumer	20-01-2011	Economy	Västra Göt	Art	0.5	-14	-0.451612903	5	31
31	Office Sup	Vienna	Austria	Ella Troy	14-01-2011	AZ-2011-5960662	AZ-2011-59606	Xerox Message Books, P	Central	Home Offi	19-01-2011	Economy	Vienna	Paper	0	103	0.459821429	11	224
32	Technolog	Vienna	Austria	Ella Troy	14-01-2011	AZ-2011-5960662	AZ-2011-59606	StarTech Card Printer, W	Central	Home Offi	19-01-2011	Economy	Vienna	Machines	0	78	0.160493827	3	486
33	Technolog	Vienna	Austria	Ella Troy	14-01-2011	AZ-2011-5960662	AZ-2011-59606	Ankle Headset, with Call	Central	Home Offi	19-01-2011	Economy	Vienna	Phones	0	66	0.15	6	440



ListOfOrders - OrderBreakdown, ListOfOrders.xlsx - Microsoft Excel (Product Activation Failed)																			
File Home Insert Page Layout Formulas Data Review View																			
Clipboard Font Alignment Number Styles Cells Editing																			
N26 Machines																			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Category	City	Country	Customer	Order Date	Order ID	Order ID (Order	Product Name	Region	Segment	Ship Date	Ship Mode	State	Sub-Category	Discount	Profit	profit margin	Quantity	Sales
2	Office Sup	Stockholm	Sweden	Ruby Patel	01-01-2011	BN-2011-7407039	BN-2011-74070	Enermax Note Cards, Pri	North	Home Offi	05-01-2011	Economy	I Stockholm	Paper	0.5	-26	-0.577777778	3	45
3	Furniture	Southport	United Kin	Summer H	03-01-2011	AZ-2011-9050313	AZ-2011-90503	Dania Corner Shelving, T	North	Consumer	07-01-2011	Economy	England	Bookcases	0	290	0.339578454	7	854
4	Office Sup	Valence	France	Devin Hud	04-01-2011	AZ-2011-6674300	AZ-2011-66743	Binney & Smith Sketch P	Central	Consumer	08-01-2011	Economy	Auvergne-	Art	0	21	0.15	3	140
5	Office Sup	Birmingham	United Kin	Mary Park	04-01-2011	BN-2011-2819714	BN-2011-28197	Boston Markers, Easy-Er	North	Corporate	09-01-2011	Economy	England	Art	0.5	-22	-0.814814815	2	27
6	Office Sup	Birmingham	United Kin	Mary Park	04-01-2011	BN-2011-2819714	BN-2011-28197	Eldon Folders, Single Wit	North	Corporate	09-01-2011	Economy	England	Storage	0.5	-1	-0.058823529	2	17
7	Office Sup	Echirolles	France	Daniel Bur	05-01-2011	AZ-2011-617423	AZ-2011-61742	Binney & Smith Pencil Sh	Central	Home Offi	07-01-2011	Priority	Auvergne-	Art	0.43	21	0.233333333	3	90
8	Office Sup	Echirolles	France	Daniel Bur	05-01-2011	AZ-2011-617423	AZ-2011-61742	Sanford Canvas, Fluoresc	Central	Home Offi	07-01-2011	Priority	Auvergne-	Art	0	77	0.371980676	4	207
9	Furniture	La Seyne-s	France	Fredrick Be	07-01-2011	AZ-2011-2918397	AZ-2011-29183	Bush Floating Shelf Set, f	Central	Corporate	08-01-2011	Priority	Provence-	Bookcases	0.43	36	0.232258065	1	155
10	Office Sup	La Seyne-s	France	Fredrick Be	07-01-2011	AZ-2011-2918397	AZ-2011-29183	Accos Thumb Tacks, Assi	Central	Corporate	08-01-2011	Priority	Provence-	Fasteners	0	2	0.060606061	3	33
11	Office Sup	La Seyne-s	France	Fredrick Be	07-01-2011	AZ-2011-2918397	AZ-2011-29183	Smead Lockers, Industrii	Central	Corporate	08-01-2011	Priority	Provence-	Storage	0.1	143	0.19972067	4	716
12	Furniture	Toulouse	France	Archer Hoi	08-01-2011	BN-2011-3248724	BN-2011-32487	Ikea Classic Bookcase, f	Central	Consumer	14-01-2011	Economy	Languedoc	Bookcases	0.6	-1012	-1.025329281	6	987
13	Office Sup	Toulouse	France	Archer Hoi	08-01-2011	BN-2011-3248724	BN-2011-32487	Binney & Smith Sketch P	Central	Consumer	14-01-2011	Economy	Languedoc	Art	0.5	-56	-0.482758621	5	116
14	Furniture	Woking	United Kin	Gracie Pov	11-01-2011	AZ-2011-7053593	AZ-2011-70535	SAFCO Executive Leathe	North	Consumer	11-01-2011	Immediate	England	Chairs	0	14	0.010115607	3	1384
15	Office Sup	Woking	United Kin	Gracie Pov	11-01-2011	AZ-2011-7053593	AZ-2011-70535	Binney & Smith Canvas, i	North	Consumer	11-01-2011	Immediate	England	Art	0	20	0.194174757	2	103
16	Furniture	Murcia	Spain	Summer H	11-01-2011	AZ-2011-6439906	AZ-2011-64399	Bevis Training Table, wit	South	Consumer	15-01-2011	Economy	Murcia	Tables	0.43	-342	-1.276119403	2	268
17	Office Sup	Vienna	Austria	Faith Gree	11-01-2011	AZ-2011-4827146	AZ-2011-48271	Boston Canvas, Fluoresc	Central	Consumer	15-01-2011	Economy	Vienna	Art	0	10	0.181818182	1	55
18	Office Sup	Vienna	Austria	Faith Gree	11-01-2011	AZ-2011-4827146	AZ-2011-48271	Smead Trays, Single Wid	Central	Consumer	15-01-2011	Economy	Vienna	Storage	0	31	0.319587629	2	97
19	Office Sup	Murcia	Spain	Summer H	11-01-2011	AZ-2011-6439906	AZ-2011-64399	Novimex File Folder Lab	South	Consumer	15-01-2011	Economy	Murcia	Labels	0	6	0.15	5	40
20	Office Sup	Genoa	Italy	Evie Flocki	11-01-2011	AZ-2011-6712797	AZ-2011-67127	Ibico Hole Reinforceme	South	Consumer	16-01-2011	Economy	Liguria	Binders	0	7	0.318181818	3	22
21	Office Sup	Sheffield	United Kin	Viola Wats	12-01-2011	AZ-2011-2222024	AZ-2011-22220	Green Bar Note Cards, f	North	Consumer	15-01-2011	Priority	England	Paper	0.5	-6	-0.176470588	2	34
22	Furniture	Leicester	United Kin	Julia Mart	12-01-2011	AZ-2011-9927716	AZ-2011-99277	Hon Chairmat, Adjustabl	North	Home Offi	17-01-2011	Economy	England	Chairs	0	70	0.24137931	5	290
23	Furniture	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5702370	AZ-2011-57023	Ikea Stackable Bookrack	Central	Corporate	19-01-2011	Economy	Lower Sax	Bookcases	0.43	165	0.298913043	5	552
24	Office Sup	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5702370	AZ-2011-57023	Binney & Smith Canvas, i	Central	Corporate	19-01-2011	Economy	Lower Sax	Art	0	49	0.190661479	5	257
25	Office Sup	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5702370	AZ-2011-57023	Ibico Index Tab, Clear	Central	Corporate	19-01-2011	Economy	Lower Sax	Binders	0	6	0.352941176	2	17
26	Technolog	Lohne	Germany	Hershel Sn	12-01-2011	AZ-2011-5702370	AZ-2011-57023	Epson Printer, White	Central	Corporate	19-01-2011	Economy	Lower Sax	Machines	0	21	0.040229885	2	522
27	Office Sup	Dordrecht	Netherlan	Julian Dob	13-01-2011	BN-2011-4913858	BN-2011-49138	Wilson Jones Hole Reinf	Central	Consumer	19-01-2011	Economy	South Holl	Binders	0.43	-3	-0.333333333	3	9
28	Office Sup	Dordrecht	Netherlan	Julian Dob	13-01-2011	BN-2011-4913858	BN-2011-49138	Harbour Creations Legal	Central	Consumer	19-01-2011	Economy	South Holl	Labels	0.5	-12	-0.545454545	4	22
29	Office Sup	Dordrecht	Netherlan	Julian Dob	13-01-2011	BN-2011-4913858	BN-2011-49138	Green Bar Cards & Envel	Central	Consumer	19-01-2011	Economy	South Holl	Paper	0.5	-38	-0.76	2	50
30	Office Sup	Dordrecht	Netherlan	Julian Dob	13-01-2011	BN-2011-4913858	BN-2011-49138	Smead Lockers, Blue	Central	Consumer	19-01-2011	Economy	South Holl	Storage	0.5	-131	-0.661616162	2	198
31	Office Sup	Gothenbur	Sweden	Rose Heap	13-01-2011	BN-2011-2807470	BN-2011-28074	Sanford Pens, Fluorescei	North	Consumer	20-01-2011	Economy	Västra Göta	Art	0.5	-14	-0.451612903	5	31
32	Office Sup	Vienna	Austria	Ella Troy	14-01-2011	AZ-2011-5960662	AZ-2011-59606	Xerox Message Books, P	Central	Home Offi	19-01-2011	Economy	Vienna	Paper	0	103	0.459821429	11	224
33	Technolog	Vienna	Austria	Ella Troy	14-01-2011	AZ-2011-5960662	AZ-2011-59606	StarTech Card Printer, V	Central	Home Offi	19-01-2011	Economy	Vienna	Machines	0	78	0.160493827	3	486
34	Technolog	Vienna	Austria	Ella Troy	14-01-2011	AZ-2011-5960662	AZ-2011-59606	Ankle Headset, with Call	Central	Home Offi	19-01-2011	Economy	Vienna	Phones	0	66	0.15	6	440

## 7) Splitting The Dataset:

The dataset was splitted into three dataframes using dplyr Library.

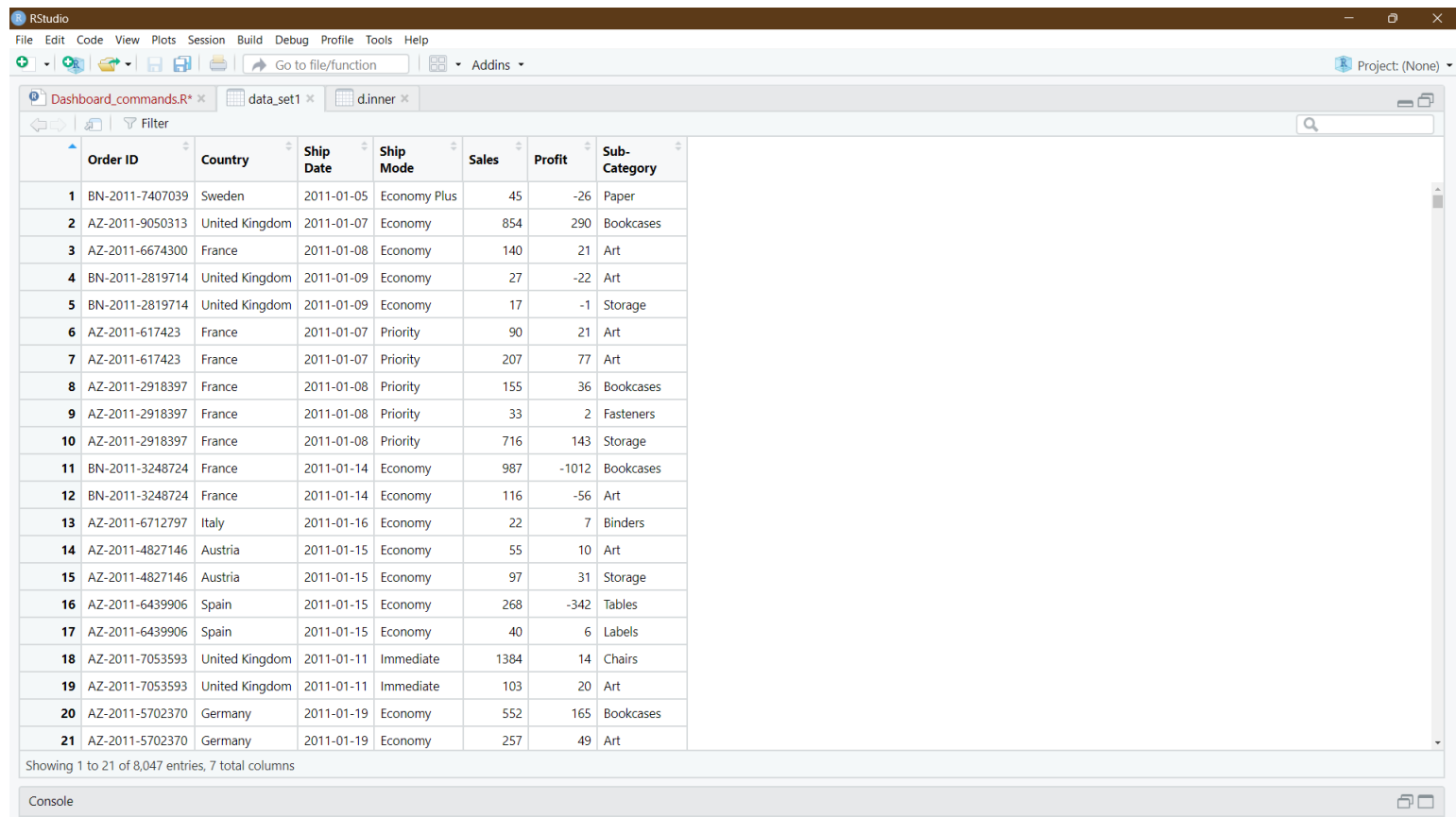
```
#splitting
```

```
data_set1= select(d.inner,"Order ID","Country","Ship Date","Ship Mode","Sales","Profit","Sub-Category")  
View(data_set1)
```

```
data_set2= select(d.inner,"Order ID","Order Date","Region","Product Name","Discount","Sales","Category")  
View(data_set2)
```

```
data_set3= select(d.inner,"Order ID","Customer Name","City","Segment","State","Quantity","profit_margin")  
View(data_set3)
```

Outputs:



Dashboard\_commands.R\* × data\_set1 × d.inner ×

	Order ID	Country	Ship Date	Ship Mode	Sales	Profit	Sub-Category
1	BN-2011-7407039	Sweden	2011-01-05	Economy Plus	45	-26	Paper
2	AZ-2011-9050313	United Kingdom	2011-01-07	Economy	854	290	Bookcases
3	AZ-2011-6674300	France	2011-01-08	Economy	140	21	Art
4	BN-2011-2819714	United Kingdom	2011-01-09	Economy	27	-22	Art
5	BN-2011-2819714	United Kingdom	2011-01-09	Economy	17	-1	Storage
6	AZ-2011-617423	France	2011-01-07	Priority	90	21	Art
7	AZ-2011-617423	France	2011-01-07	Priority	207	77	Art
8	AZ-2011-2918397	France	2011-01-08	Priority	155	36	Bookcases
9	AZ-2011-2918397	France	2011-01-08	Priority	33	2	Fasteners
10	AZ-2011-2918397	France	2011-01-08	Priority	716	143	Storage
11	BN-2011-3248724	France	2011-01-14	Economy	987	-1012	Bookcases
12	BN-2011-3248724	France	2011-01-14	Economy	116	-56	Art
13	AZ-2011-6712797	Italy	2011-01-16	Economy	22	7	Binders
14	AZ-2011-4827146	Austria	2011-01-15	Economy	55	10	Art
15	AZ-2011-4827146	Austria	2011-01-15	Economy	97	31	Storage
16	AZ-2011-6439906	Spain	2011-01-15	Economy	268	-342	Tables
17	AZ-2011-6439906	Spain	2011-01-15	Economy	40	6	Labels
18	AZ-2011-7053593	United Kingdom	2011-01-11	Immediate	1384	14	Chairs
19	AZ-2011-7053593	United Kingdom	2011-01-11	Immediate	103	20	Art
20	AZ-2011-5702370	Germany	2011-01-19	Economy	552	165	Bookcases
21	AZ-2011-5702370	Germany	2011-01-19	Economy	257	49	Art

Showing 1 to 21 of 8,047 entries, 7 total columns

Console

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function

Addins

Project: (None)

Dashboard\_commands.R\* data\_set2 data\_set1 d.inner

Filter

	Order ID	Order Date	Region	Product Name	Discount	Sales	Category
1	BN-2011-7407039	2011-01-01	North	Enermax Note Cards, Premium	0.50	45	Office Supplies
2	AZ-2011-9050313	2011-01-03	North	Dania Corner Shelving, Traditional	0.00	854	Furniture
3	AZ-2011-6674300	2011-01-04	Central	Binney & Smith Sketch Pad, Easy-Erase	0.00	140	Office Supplies
4	BN-2011-2819714	2011-01-04	North	Boston Markers, Easy-Erase	0.50	27	Office Supplies
5	BN-2011-2819714	2011-01-04	North	Eldon Folders, Single Width	0.50	17	Office Supplies
6	AZ-2011-617423	2011-01-05	Central	Binney & Smith Pencil Sharpener, Water Color	0.00	90	Office Supplies
7	AZ-2011-617423	2011-01-05	Central	Sanford Canvas, Fluorescent	0.00	207	Office Supplies
8	AZ-2011-2918397	2011-01-07	Central	Bush Floating Shelf Set, Pine	0.10	155	Furniture
9	AZ-2011-2918397	2011-01-07	Central	Accos Thumb Tacks, Assorted Sizes	0.00	33	Office Supplies
10	AZ-2011-2918397	2011-01-07	Central	Smead Lockers, Industrial	0.10	716	Office Supplies
11	BN-2011-3248724	2011-01-08	Central	Ikea Classic Bookcase, Metal	0.60	987	Furniture
12	BN-2011-3248724	2011-01-08	Central	Binney & Smith Sketch Pad, Blue	0.50	116	Office Supplies
13	AZ-2011-6712797	2011-01-11	South	Ibico Hole Reinforcements, Recycled	0.00	22	Office Supplies
14	AZ-2011-4827146	2011-01-11	Central	Boston Canvas, Fluorescent	0.00	55	Office Supplies
15	AZ-2011-4827146	2011-01-11	Central	Smead Trays, Single Width	0.00	97	Office Supplies
16	AZ-2011-6439906	2011-01-11	South	Bevis Training Table, with Bottom Storage	0.60	268	Furniture
17	AZ-2011-6439906	2011-01-11	South	Novimex File Folder Labels, Alphabetical	0.00	40	Office Supplies
18	AZ-2011-7053593	2011-01-11	North	SAFCO Executive Leather Armchair, Red	0.00	1384	Furniture
19	AZ-2011-7053593	2011-01-11	North	Binney & Smith Canvas, Blue	0.00	103	Office Supplies
20	AZ-2011-5702370	2011-01-12	Central	Ikea Stackable Bookrack, Traditional	0.10	552	Furniture
21	AZ-2011-5702370	2011-01-12	Central	Binney & Smith Canvas, Blue	0.00	257	Office Supplies

Showing 1 to 21 of 8,047 entries, 7 total columns

Console

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Project: (None)

Dashboard\_commands.R\* data\_set3 data\_set2 data\_set1 d.inner

Filter

	Order ID	Customer Name	City	Segment	State	Quantity	profit_margin\$Profit
1	BN-2011-7407039	Ruby Patel	Stockholm	Home Office	Stockholm	3	-0.57777778
2	AZ-2011-9050313	Summer Hayward	Southport	Consumer	England	7	0.33957845
3	AZ-2011-6674300	Devin Huddleston	Valence	Consumer	Auvergne-Rhône-Alpes	3	0.15000000
4	BN-2011-2819714	Mary Parker	Birmingham	Corporate	England	2	-0.81481481
5	BN-2011-2819714	Mary Parker	Birmingham	Corporate	England	2	-0.05882353
6	AZ-2011-617423	Daniel Burke	Echirolles	Home Office	Auvergne-Rhône-Alpes	3	0.23333333
7	AZ-2011-617423	Daniel Burke	Echirolles	Home Office	Auvergne-Rhône-Alpes	4	0.37198068
8	AZ-2011-2918397	Fredrick Beveridge	La Seyne-sur-Mer	Corporate	Provence-Alpes-Côte d'Azur	1	0.23225806
9	AZ-2011-2918397	Fredrick Beveridge	La Seyne-sur-Mer	Corporate	Provence-Alpes-Côte d'Azur	3	0.06060606
10	AZ-2011-2918397	Fredrick Beveridge	La Seyne-sur-Mer	Corporate	Provence-Alpes-Côte d'Azur	4	0.19972067
11	BN-2011-3248724	Archer Hort	Toulouse	Consumer	Languedoc-Roussillon-Midi-Pyrénées	6	-1.02532928
12	BN-2011-3248724	Archer Hort	Toulouse	Consumer	Languedoc-Roussillon-Midi-Pyrénées	5	-0.48275862
13	AZ-2011-6712797	Evie Flockhart	Genoa	Consumer	Liguria	3	0.31818182
14	AZ-2011-4827146	Faith Greenwood	Vienna	Consumer	Vienna	1	0.18181818
15	AZ-2011-4827146	Faith Greenwood	Vienna	Consumer	Vienna	2	0.31958763
16	AZ-2011-6439906	Summer Hayward	Murcia	Consumer	Murcia	2	-1.27611940
17	AZ-2011-6439906	Summer Hayward	Murcia	Consumer	Murcia	5	0.15000000
18	AZ-2011-7053593	Gracie Powell	Woking	Consumer	England	3	0.01011561
19	AZ-2011-7053593	Gracie Powell	Woking	Consumer	England	2	0.19417476
20	AZ-2011-5702370	Hershel Snyder	Lohne	Corporate	Lower Saxony	5	0.29891304
21	AZ-2011-5702370	Hershel Snyder	Lohne	Corporate	Lower Saxony	5	0.19066148

Showing 1 to 22 of 8,047 entries, 7 total columns

Console

## 8) Merging Data Sets

```
#data merging
```

```
data_frame=merge(data_set1,data_set2,by=c("Order ID"))  
View(data_frame)  
data_frame2=merge(data_set3,data_frame,by=c("Order ID"))  
View(data_frame2)
```

```
# data frame 1
```

	Order ID	Country	Ship Date	Product Name	Profit	Sub-Category	Order Date	Region	Ship Mode	Discount	Sales	Category
1	AZ-2011-1029887	Germany	2011-08-03	Deflect-O Door Stop, Ergonomic	15	Furnishings	2011-07-31	Central	Economy Plus	0.0	85	Furniture
2	AZ-2011-1029887	Germany	2011-08-03	Deflect-O Door Stop, Ergonomic	15	Furnishings	2011-07-31	Central	Economy Plus	0.0	26	Office Supplies
3	AZ-2011-1029887	Germany	2011-08-03	Novimex Color Coded Labels, 5000 Label Set	7	Labels	2011-07-31	Central	Economy Plus	0.0	85	Furniture
4	AZ-2011-1029887	Germany	2011-08-03	Novimex Color Coded Labels, 5000 Label Set	7	Labels	2011-07-31	Central	Economy Plus	0.0	26	Office Supplies
5	AZ-2011-107716	France	2011-04-16	Belkin Flash Drive, Bluetooth	109	Accessories	2011-04-11	Central	Economy	0.0	294	Technology
6	AZ-2011-1087704	Germany	2011-09-19	Tenex Stacking Tray, Black	11	Furnishings	2011-09-15	Central	Economy	0.0	76	Furniture
7	AZ-2011-1087704	Germany	2011-09-19	Tenex Stacking Tray, Black	11	Furnishings	2011-09-15	Central	Economy	0.0	252	Office Supplies
8	AZ-2011-1087704	Germany	2011-09-19	Tenex Stacking Tray, Black	11	Furnishings	2011-09-15	Central	Economy	0.0	90	Office Supplies
9	AZ-2011-1087704	Germany	2011-09-19	Avery Binding Machine, Durable	15	Binders	2011-09-15	Central	Economy	0.0	76	Furniture
10	AZ-2011-1087704	Germany	2011-09-19	Avery Binding Machine, Durable	15	Binders	2011-09-15	Central	Economy	0.0	252	Office Supplies
11	AZ-2011-1087704	Germany	2011-09-19	Avery Binding Machine, Durable	15	Binders	2011-09-15	Central	Economy	0.0	90	Office Supplies
12	AZ-2011-1087704	Germany	2011-09-19	Stiletto Letter Opener, Easy Grip	17	Supplies	2011-09-15	Central	Economy	0.0	76	Furniture
13	AZ-2011-1087704	Germany	2011-09-19	Stiletto Letter Opener, Easy Grip	17	Supplies	2011-09-15	Central	Economy	0.0	252	Office Supplies
14	AZ-2011-1087704	Germany	2011-09-19	Stiletto Letter Opener, Easy Grip	17	Supplies	2011-09-15	Central	Economy	0.0	90	Office Supplies
15	AZ-2011-1114253	Germany	2011-10-22	Nokia Audio Dock, with Caller ID	200	Phones	2011-10-18	Central	Economy Plus	0.0	1334	Technology
16	AZ-2011-1116129	Germany	2011-06-11	Avery Removable Labels, Alphabetical	6	Labels	2011-06-09	Central	Economy Plus	0.0	32	Office Supplies
17	AZ-2011-1137571	Germany	2011-09-12	Deflect-O Door Stop, Black	3	Furnishings	2011-09-10	Central	Economy Plus	0.0	88	Furniture
18	AZ-2011-1137571	Germany	2011-09-12	Deflect-O Door Stop, Black	3	Furnishings	2011-09-10	Central	Economy Plus	0.0	284	Office Supplies
19	AZ-2011-1137571	Germany	2011-09-12	Boston Canvas, Water Color	43	Art	2011-09-10	Central	Economy Plus	0.0	88	Furniture
20	AZ-2011-1137571	Germany	2011-09-12	Boston Canvas, Water Color	43	Art	2011-09-10	Central	Economy Plus	0.0	284	Office Supplies
21	AZ-2011-1174243	United Kingdom	2011-06-13	Safco Stackable Bookrack, Pine	156	Bookcases	2011-06-10	North	Priority	0.1	541	Furniture

Showing 1 to 21 of 23,393 entries, 12 total columns

```
#data frame 2
```

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Dashboard\_commands.R\* data\_frame2 data\_frame data\_set3 data\_set2 data\_set1 d.inner
Filter

	Order ID	Customer Name	City	Segment	State	Quantity	profit_margin\$Profit	Country	Ship Date	Product Name	Profit
654	AZ-2011-1029887	Brooke Hodgson	Leipzig	Consumer	Saxony	2	0.17647059	Germany	2011-08-03	Deflect-O Door Stop, Ergonomic	
654.1	AZ-2011-1029887	Brooke Hodgson	Leipzig	Consumer	Saxony	2	0.17647059	Germany	2011-08-03	Novimex Color Coded Labels, 5000 Label Set	
654.2	AZ-2011-1029887	Brooke Hodgson	Leipzig	Consumer	Saxony	2	0.17647059	Germany	2011-08-03	Novimex Color Coded Labels, 5000 Label Set	
654.3	AZ-2011-1029887	Brooke Hodgson	Leipzig	Consumer	Saxony	2	0.17647059	Germany	2011-08-03	Deflect-O Door Stop, Ergonomic	
655	AZ-2011-1029887	Brooke Hodgson	Leipzig	Consumer	Saxony	2	0.26923077	Germany	2011-08-03	Deflect-O Door Stop, Ergonomic	
655.1	AZ-2011-1029887	Brooke Hodgson	Leipzig	Consumer	Saxony	2	0.26923077	Germany	2011-08-03	Novimex Color Coded Labels, 5000 Label Set	
655.2	AZ-2011-1029887	Brooke Hodgson	Leipzig	Consumer	Saxony	2	0.26923077	Germany	2011-08-03	Novimex Color Coded Labels, 5000 Label Set	
655.3	AZ-2011-1029887	Brooke Hodgson	Leipzig	Consumer	Saxony	2	0.26923077	Germany	2011-08-03	Deflect-O Door Stop, Ergonomic	
258	AZ-2011-107716	Corey Norton	Marseille	Consumer	Provence-Alpes-Côte d'Azur	7	0.37074830	France	2011-04-16	Belkin Flash Drive, Bluetooth	
896	AZ-2011-1087704	Elijah Ruatoka	Karlsruhe	Home Office	Baden-Württemberg	3	0.14473684	Germany	2011-09-19	Avery Binding Machine, Durable	
896.1	AZ-2011-1087704	Elijah Ruatoka	Karlsruhe	Home Office	Baden-Württemberg	3	0.14473684	Germany	2011-09-19	Avery Binding Machine, Durable	
896.2	AZ-2011-1087704	Elijah Ruatoka	Karlsruhe	Home Office	Baden-Württemberg	3	0.14473684	Germany	2011-09-19	Tenex Stacking Tray, Black	
896.3	AZ-2011-1087704	Elijah Ruatoka	Karlsruhe	Home Office	Baden-Württemberg	3	0.14473684	Germany	2011-09-19	Avery Binding Machine, Durable	
896.4	AZ-2011-1087704	Elijah Ruatoka	Karlsruhe	Home Office	Baden-Württemberg	3	0.14473684	Germany	2011-09-19	Tenex Stacking Tray, Black	
896.5	AZ-2011-1087704	Elijah Ruatoka	Karlsruhe	Home Office	Baden-Württemberg	3	0.14473684	Germany	2011-09-19	Tenex Stacking Tray, Black	
896.6	AZ-2011-1087704	Elijah Ruatoka	Karlsruhe	Home Office	Baden-Württemberg	3	0.14473684	Germany	2011-09-19	Stiletto Letter Opener, Easy Grip	
896.7	AZ-2011-1087704	Elijah Ruatoka	Karlsruhe	Home Office	Baden-Württemberg	3	0.14473684	Germany	2011-09-19	Stiletto Letter Opener, Easy Grip	
896.8	AZ-2011-1087704	Elijah Ruatoka	Karlsruhe	Home Office	Baden-Württemberg	3	0.14473684	Germany	2011-09-19	Stiletto Letter Opener, Easy Grip	
897	AZ-2011-1087704	Elijah Ruatoka	Karlsruhe	Home Office	Baden-Württemberg	5	0.05952381	Germany	2011-09-19	Avery Binding Machine, Durable	
897.1	AZ-2011-1087704	Elijah Ruatoka	Karlsruhe	Home Office	Baden-Württemberg	5	0.05952381	Germany	2011-09-19	Avery Binding Machine, Durable	

Showing 1 to 20 of 97,183 entries, 18 total columns

Console

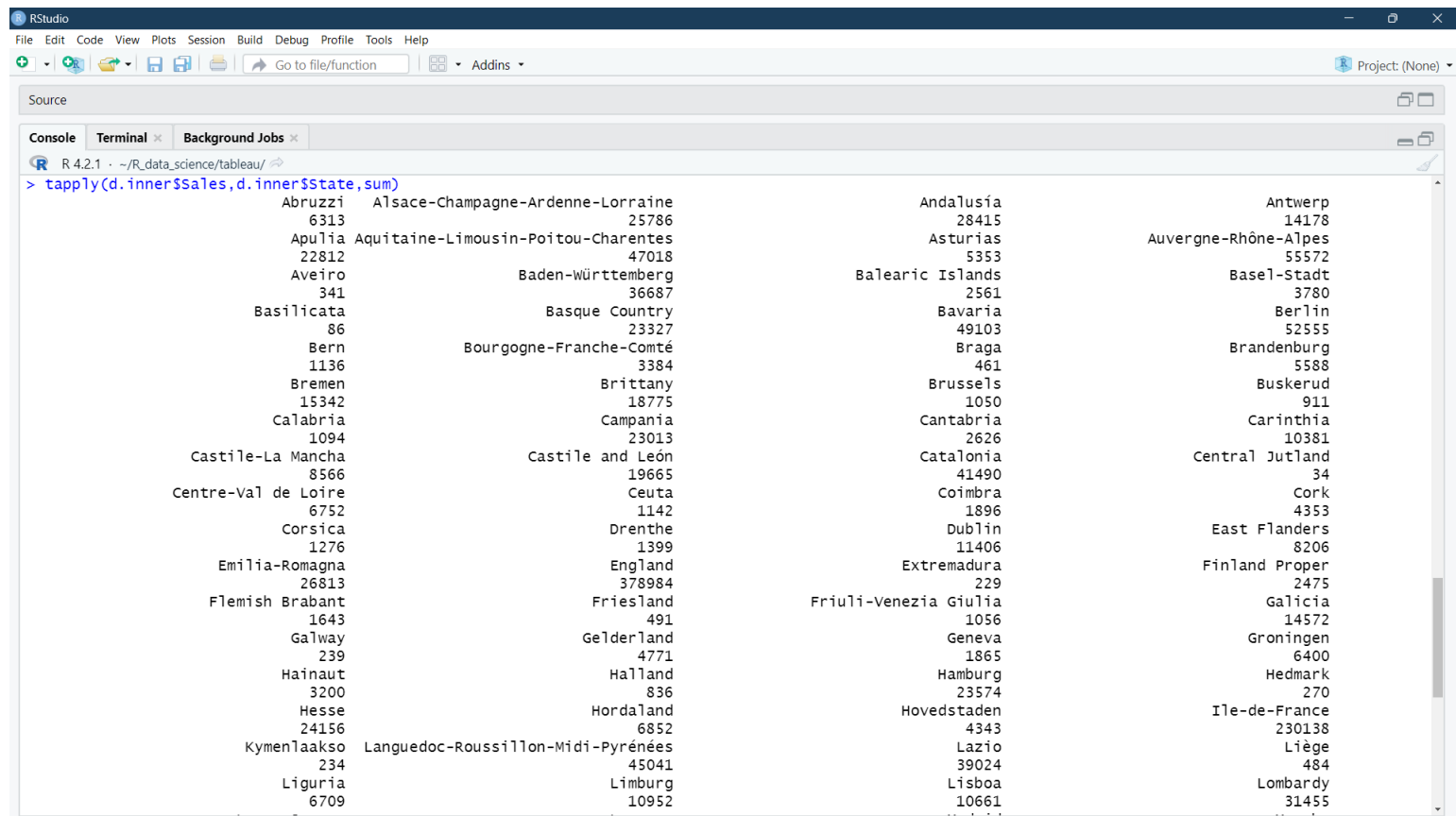


## 9) Queries and outputs:

### 1.map of Europe - How a certain store had performed across different states across the US

```
#1
#how a certain Shore had performed across different States across the US
tapply(d.inner$Sales,d.inner$State,sum)
```

Output:



RStudio

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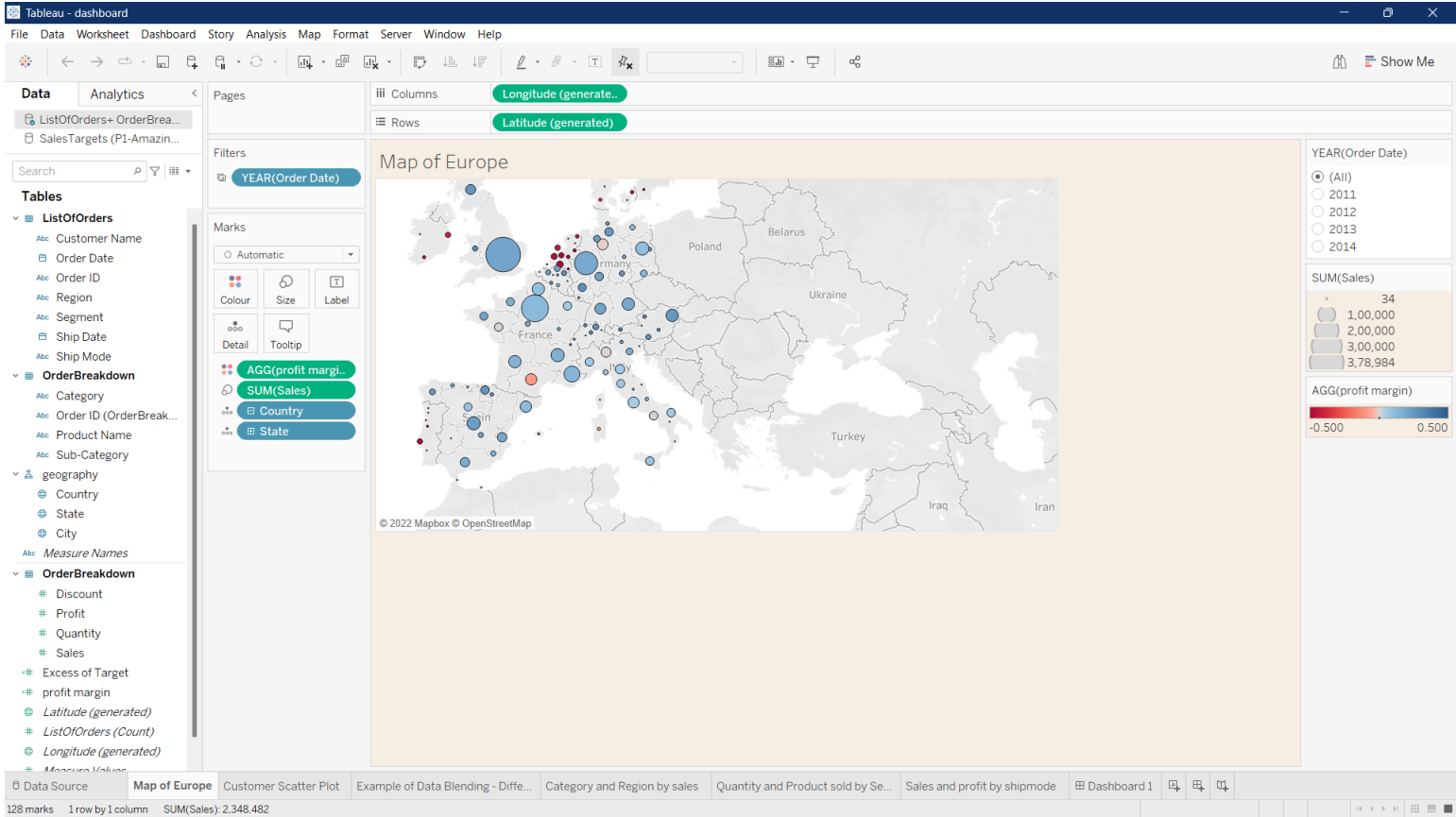
Source

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R 4.2.1 · ~/R\_data\_science/tableau/

> tapply(d.inner\$Sales,d.inner\$State,sum)

Abruzzi	Alsace-Champagne-Ardenne-Lorraine	Andalusia	Antwerp
6313	25786	28415	14178
Apulia	Aquitaine-Limousin-Poitou-Charentes	Asturias	Auvergne-Rhône-Alpes
22812	47018	5353	55572
Aveiro	Baden-Württemberg	Balearic Islands	Basel-Stadt
341	36687	2561	3780
Basilicata	Basque Country	Bavaria	Berlin
86	23327	49103	52555
Bern	Bourgogne-Franche-Comté	Braga	Brandenburg
1136	3384	461	5588
Bremen	Brittany	Brussels	Buskerud
15342	18775	1050	911
Calabria	Campania	Cantabria	Carinthia
1094	23013	2626	10381
Castile-La Mancha	Castile and León	Catalonia	Central Jutland
8566	19665	41490	34
Centre-Val de Loire	Ceuta	Coimbra	Cork
6752	1142	1896	4353
Corsica	Drenthe	Dublin	East Flanders
1276	1399	11406	8206
Emilia-Romagna	England	Extremadura	Finland Proper
26813	378984	229	2475
Flemish Brabant	Friesland	Friuli-Venezia Giulia	Galicia
1643	491	1056	14572
Galway	Gelderland	Geneva	Groningen
239	4771	1865	6400
Hainaut	Halland	Hamburg	Hedmark
3200	836	23574	270
Hesse	Hordaland	Hovedstaden	Ile-de-France
24156	6852	4343	230138
Kymenlaakso	Languedoc-Roussillon-Midi-Pyrénées	Lazio	Liège
234	45041	39024	484
Liguria	Limburg	Lisboa	Lombardy
6709	10952	10661	31455

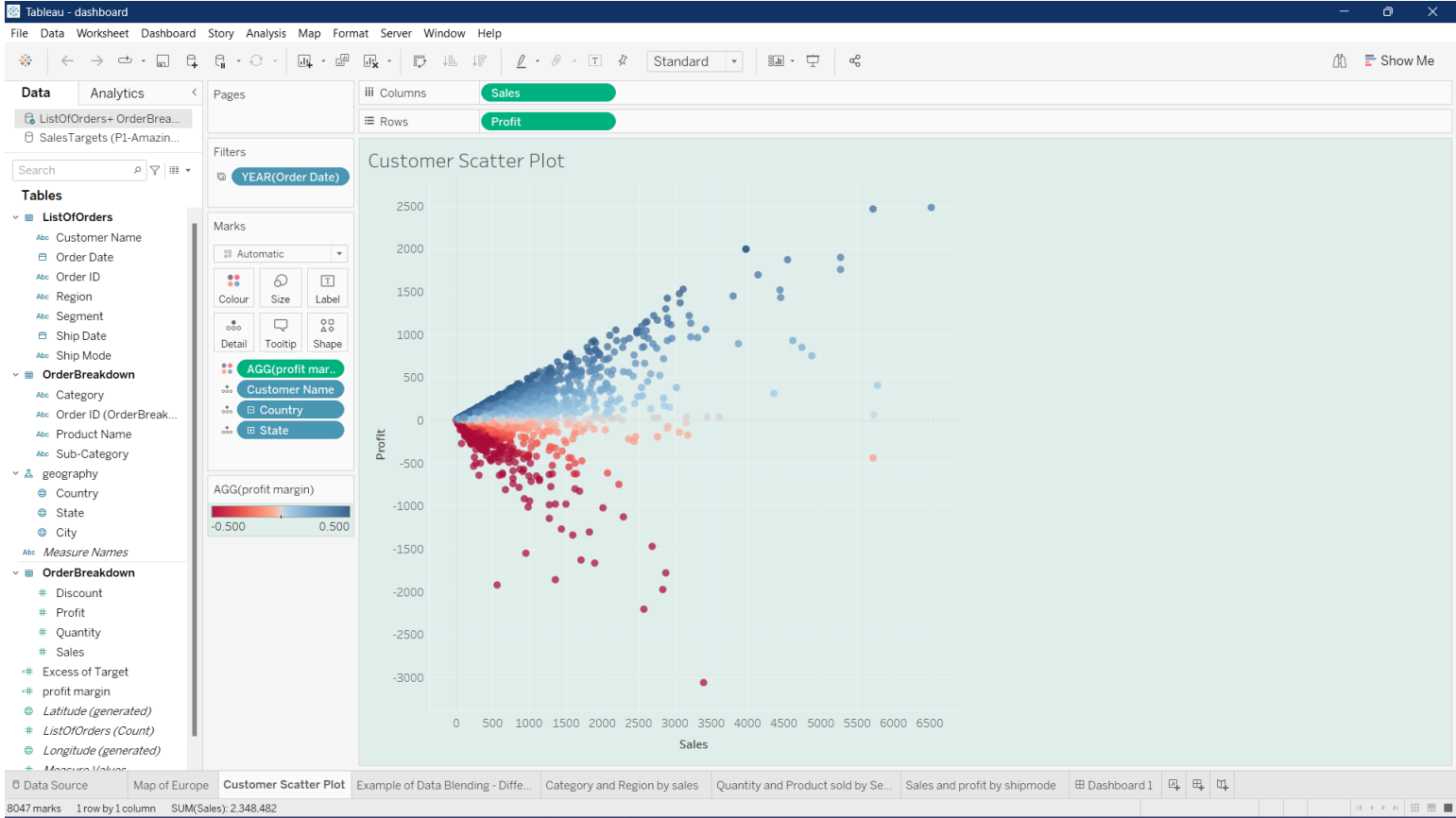


## 2. Customer scatterplot

```
#2
summarise(
  select(
    group_by(d.inner, State), State, Profit, Sales), Profit=sum(Profit), Sales=sum(Sales)
)
```

Output:

```
> #2
> summarise(
+   select(
+     group_by(d.inner, State), State, Profit, Sales), Profit=sum(Profit), Sales=sum(Sales)
+ )
# A tibble: 127 × 3
   State                                Profit Sales
   <chr>                                <dbl> <dbl>
1 Abruzzi                               873   6313
2 Alsace-Champagne-Ardenne-Lorraine  1521  25786
3 Andalusía                             5166  28415
4 Antwerp                               3160  14178
5 Apulia                                1389  22812
6 Aquitaine-Limousin-Poitou-Charentes  7165  47018
7 Asturias                              1047   5353
8 Auvergne-Rhône-Alpes                 9283  55572
9 Aveiro                               -341    341
10 Baden-Württemberg                   7762  36687
# ... with 117 more rows
# i Use `print(n = ...)` to see more rows
```



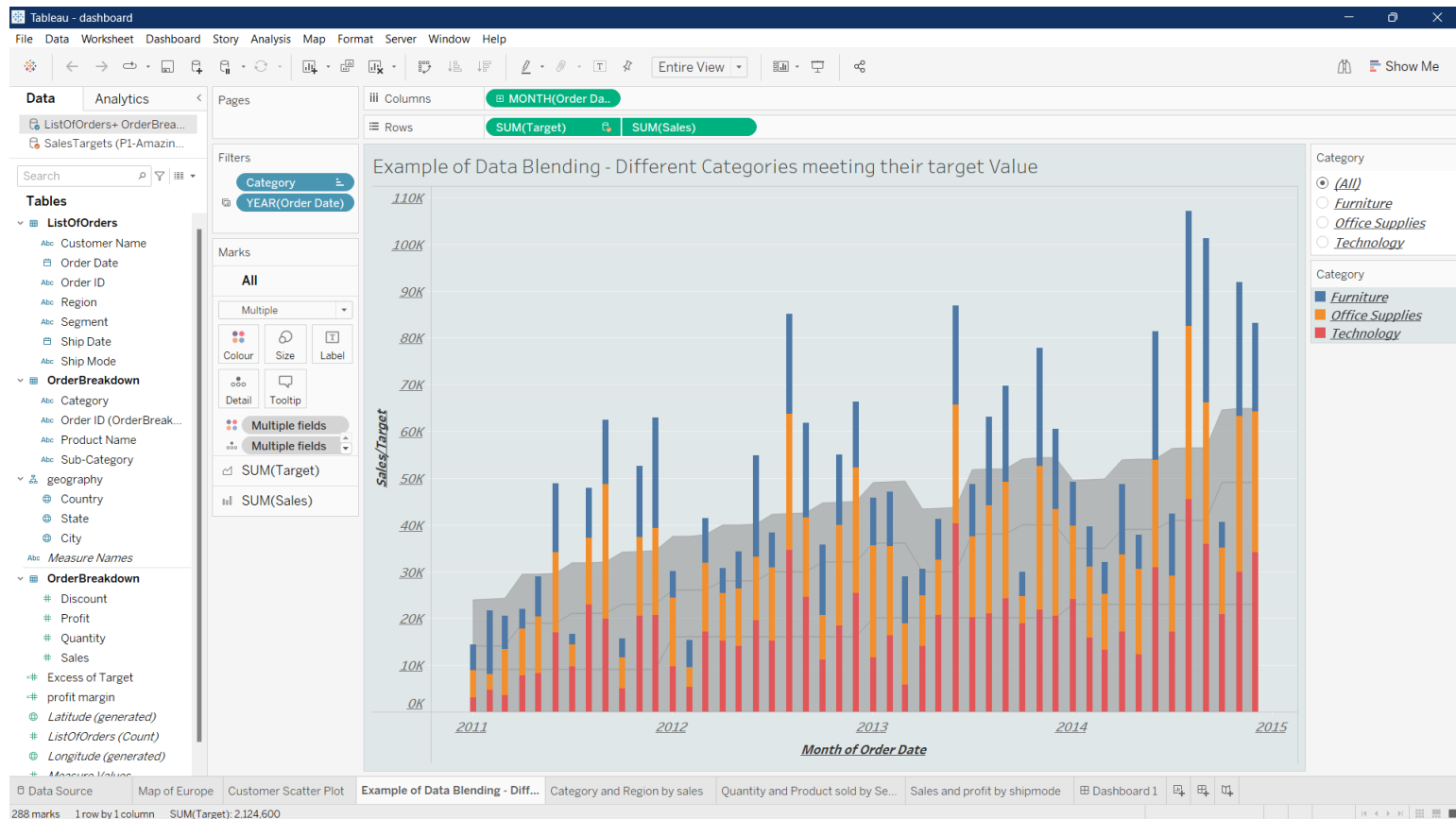
### 3.differnt categories meeting their target values

#3

```
subdata<- group_by(df2,Category)
summarise(subdata,sum(Target))
```

Output:

```
> #3
> subdata<- group_by(df2,Category)
> summarise(subdata,sum(Target))
# A tibble: 3 x 2
  Category      sum(Target)
  <chr>          <dbl>
1 Furniture      621600
2 Office Supplies 687000
3 Technology      816000
```





## 4. Category and region by sale

#4

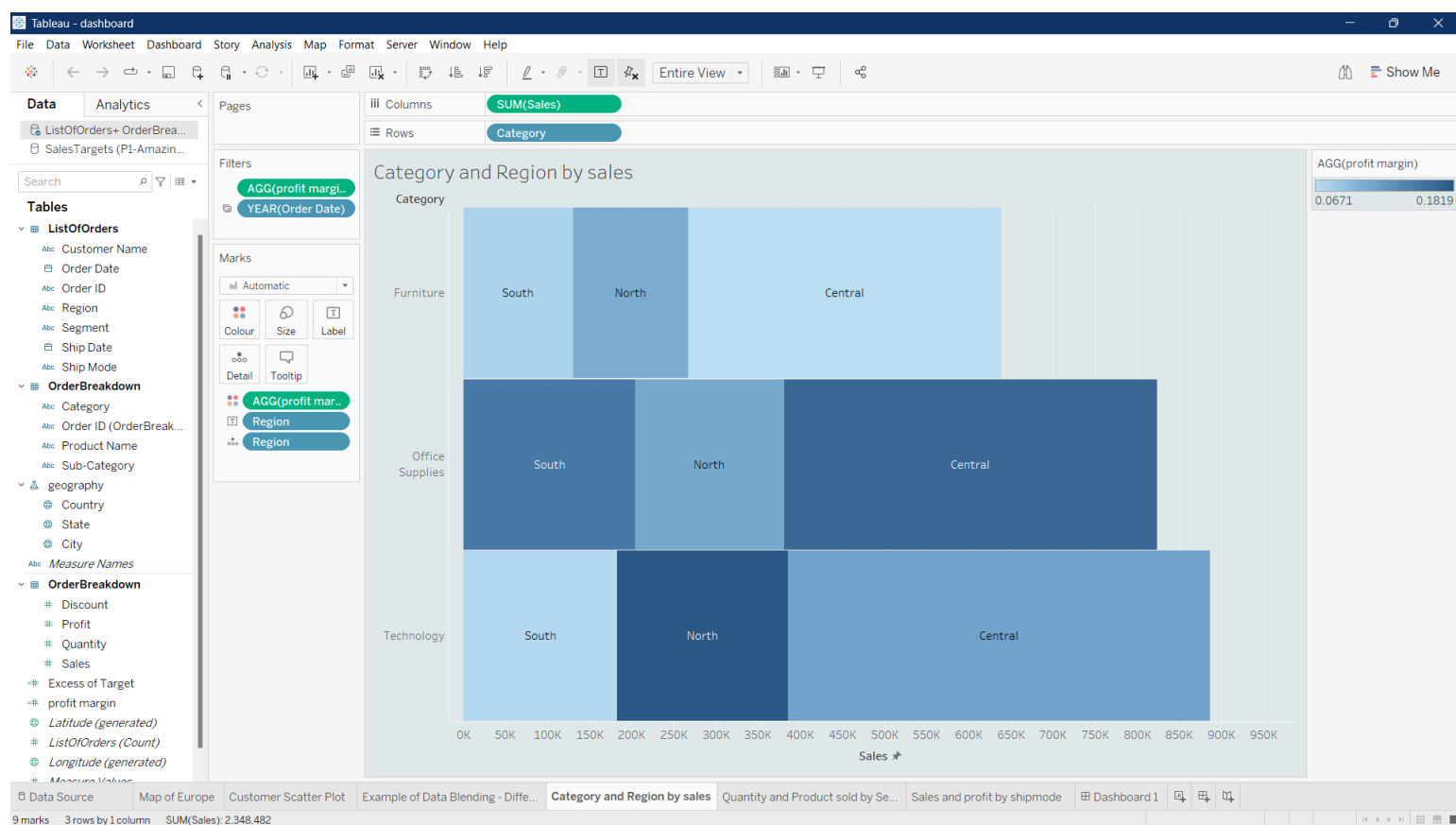
```
tapply(data_set2$Sales, data_set2$Category, sum)
```

Output:

```
> #4
```

```
> tapply(data_set2$Sales, data_set2$Category, sum)
```

	Furniture	Office Supplies	Technology
	638809	823658	886015



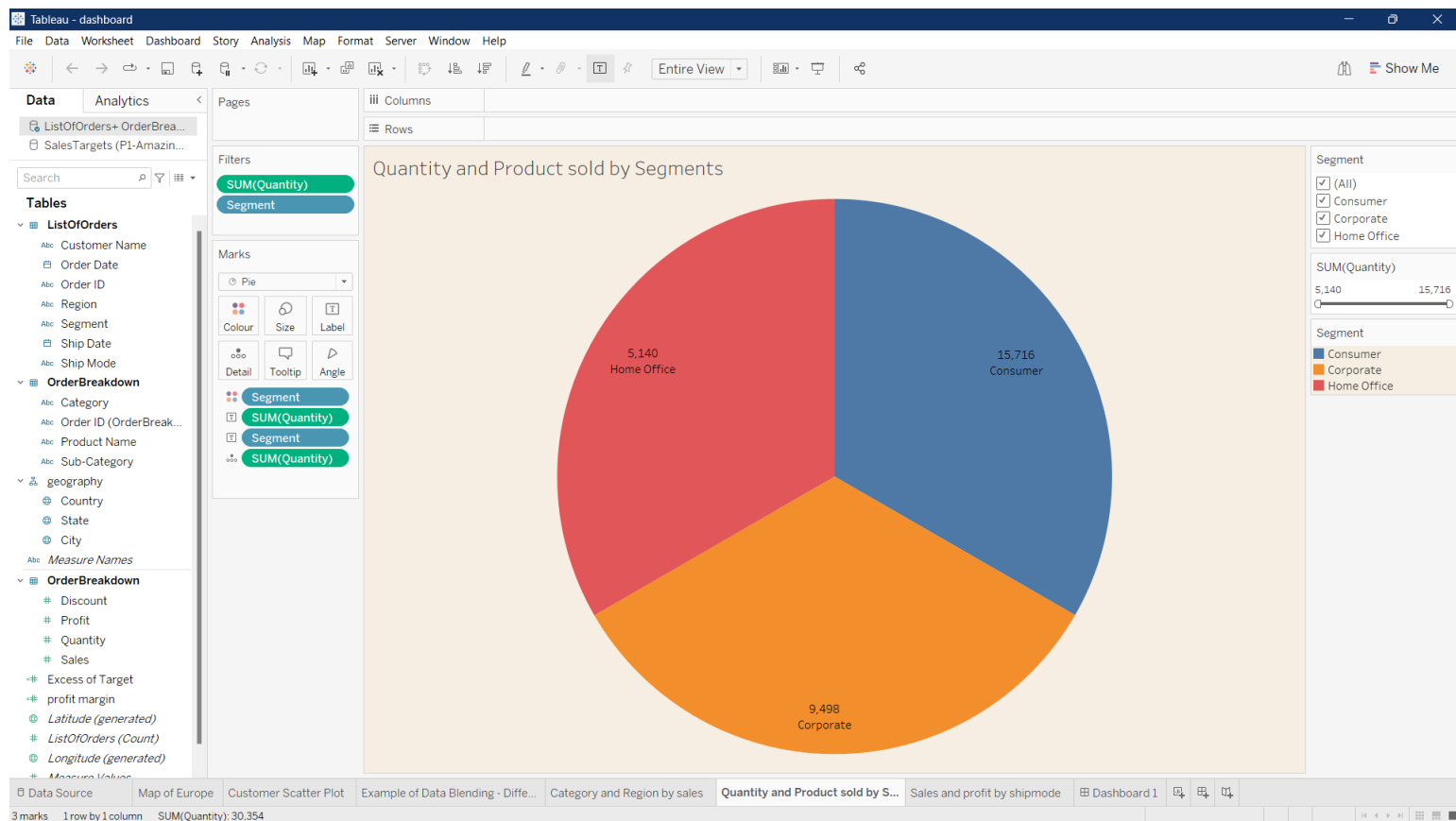
## 5. Quantity and Product sold by Segments

#5

```
quantity_sum=sum(data_set3$Quantity)
quantity_sum
summarise(
  select(
    group_by(data_set3,Segment),Segment,Quantity),
    Quantity=(sum(Quantity)/quantity_sum)*100)
```

Output:

```
> summarise(
+   select(
+     group_by(data_set3,Segment),Segment,Quantity),
+   Quantity=(sum(Quantity)/quantity_sum)*100)
# A tibble: 3 × 2
  Segment      Quantity
  <chr>         <dbl>
1 Consumer      51.8
2 Corporate     31.3
3 Home Office   16.9
```



## 6. Sales and Profit by shipmode

```
#6
summarise(
  select(
    group_by(data_set1,"Ship Mode"),Profit,"Ship Mode",Sales),
  Profit=sum(Profit),Sales=sum(Sales))
```

Output:

```
> #6
> summarise(
+   select(
+     group_by(data_set1,"Ship Mode"),Profit,"Ship Mode",Sales),
+   Profit=sum(Profit),Sales=sum(Sales))
Adding missing grouping variables: ` "Ship Mode" `
# A tibble: 1 × 3
  ` "Ship Mode" ` Profit    Sales
  <chr>          <dbl>   <dbl>
1 Ship Mode      283240  2348482
```

