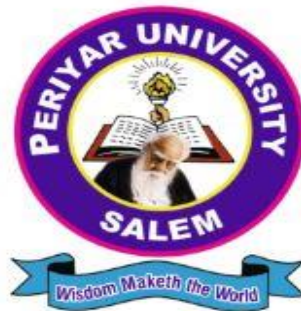


PERIYAR UNIVERSITY
(NAAC 'A++' Grade with CGPA 3.61 (Cycle - 3)
State University - NIRF Rank 56 - State Public University Rank 25
SALEM - 636 011

CENTRE FOR DISTANCE AND ONLINE EDUCATION
(CDOE)

MASTER OF COMPUTER APPLICATIONS
SEMESTER - I



CORE – VI: INDUSTRY DYNAMICS TECHNOLOGY
(DATA VISUALIZATION) LAB

(Candidates admitted from 2024 onwards)

PERIYAR UNIVERSITY

**CENTRE FOR DISTANCE AND ONLINE EDUCATION
(CDOE)**

MCA 2024 admission onwards

Core Course – VI LAB

**INDUSTRY DYNAMICS TECHNOLOGY (DATA
VISUALIZATION) LAB**

Prepared by:

Centre for Distance and Online Education (CDOE)

Periyar University

Salem – 636011.

INDUSTRY DYNAMICS TECHNOLOGY (DATA VISUALIZATIONS) LAB

COURSE OBJECTIVES

- To learn the basic functions and operations of Excel and tableau
- To explore to design, build, and deploy various charts for applications,
- To comprehend, design and deploy the label and heat map
- To understand and deploy dashboard
- To understand the functions of tableau for data process.

Note: Use the global-superstore from tableau dataset
http://www.tableau.com/sites/default/files/training/global_superstore.zip

IMPLEMENT THE FOLLOWING USING EXCEL

LIST OF EXPERIMENTS

1. Create Pie chart for Sales and Sales % by Country (sorted in descending order)
2. Create Bar chart for Sales by Country by Year (rounded to nearest thousand and sorted by Grand Total)
3. Create Line chart for Sales by Ship Mode (First Class, Same Day, Second Class and Standard Class)
4. Create Scatter chart for Sales by Ship Mode by Country (rounded to the nearest dollar and sorted by First Class)
5. Create heat map for Sales by Category by Sub-Category (in thousands and sorted by sales value in descending order)
6. Design and create the label for vendor list
7. Design and create the dash board

IMPLEMENT THE FOLLOWING USING TABLEAU

8. Sales by Ship Mode (First Class, Same Day, Second Class and Standard Class)

9. Sales by Ship Mode by Country (rounded to the nearest dollar and sorted by First Class)
10. Sales by Category by Sub-Category (in thousands and sorted by sales value in descending order)

COURSE OUTCOMES

On the successful completion of the course, students will be able to:

CO1:	Enable to create and apply Spread sheet and Tableau for various data processing	K1-K6
CO2:	Gains knowledge to create and design various visualization tools in Excel and Tableau.	
CO3:	Comprehend, create and deploy labels and heat map.	
CO4:	Enable to create and apply dashboard for various data processing	
CO5:	Illustrate and apply data visualization tool for any data set	

K1- Remember, K2- Understand, K3- Apply , K4- Analyze, K5- evaluate and K6- Create

MAPPING WITH PROGRAMME OUTCOMES:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	H	H	M	L	M	H	L	L	L	-
CO2	H	M	H	H	H	M	L	L	L	-
CO3	H	H	H	H	H	H	L	L	L	-
CO4	H	M	M	H	M	L	L	L	L	-
CO5	M	H	M	L	H	M	L	L	L	-

H- High; M-Medium; L-Low

CONTENTS

S.NO	TITLE OF THE PROGRAM	PAGE NO
1.	CREATE PIE CHART FOR SALES AND SASLES % BY COUNTRY	6
2.	CREATE BAR CHART FOR SALES BY COUNTRY BY YEAR	8
3.	CREATE LINE CHAR FOR SALES BY SHIP MODE	11
4.	CREATE SCATTER CHART FOR SALES BY SHIP MODE BY COUNTRY	14
5.	CREATE HEAT MAP FOR SALES BY CATEGORY BY SUB-CATEGORY	17
6.	DESIGN AND CREATE THE LABEL FOR VENDOR LIST	20
7.	DESIGN AND CREATE THE DASH BOARD	23
8.	SALES BY SHIP MODE	26
9.	SALES BY SHIP MODE BY COUNTRY	30
10.	SALES BY CATEGORY BY SUB - CATEGORY	34

1 CREATE PIE CHART FOR SALES AND SASLES % BY COUNTRY

AIM:

TO CREATE PIE CHART FOR SALES AND SASLES % BY COUNTRY USING EXCEL.

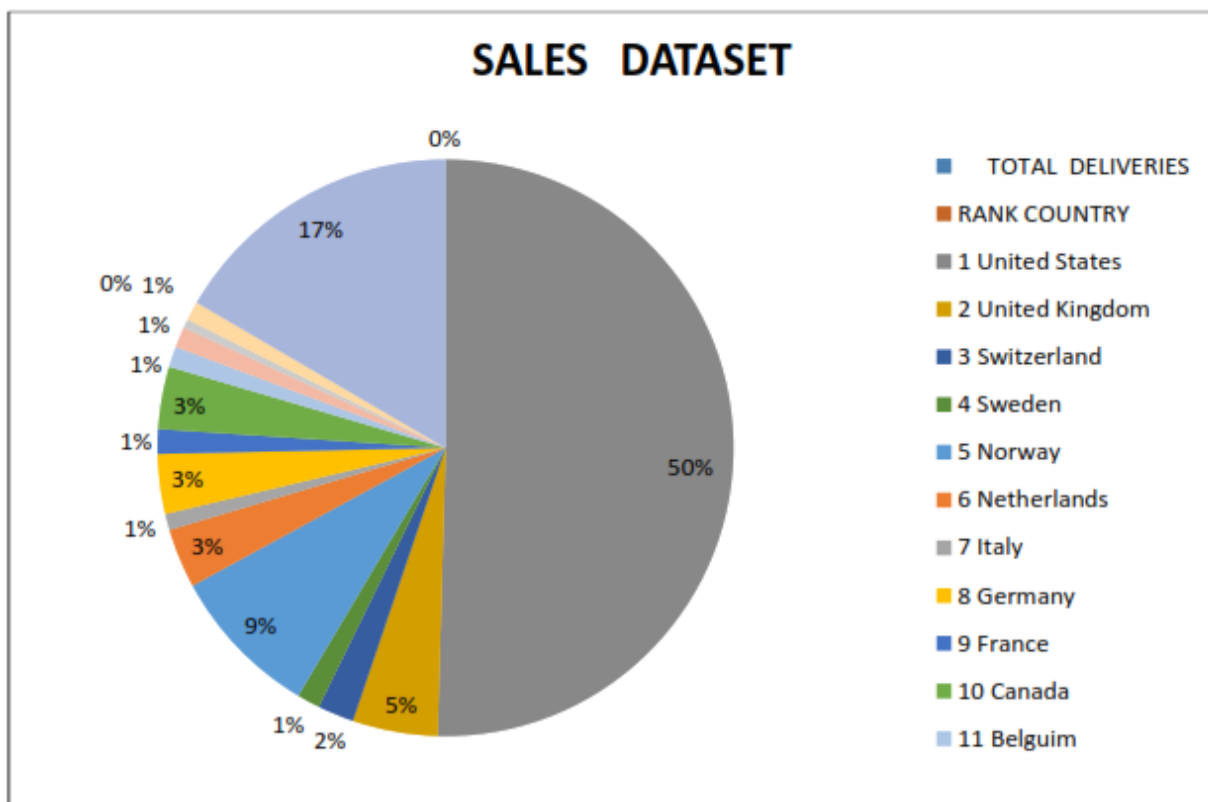
ALGORITHM:

- **Step 1** : START THE PROCESS
- **Step 2** : OPEN MS EXCEL
- **Step 3** : IMPORT DATA TO EXCEL
- **Step 4** : TO SELECT A PIE CHART, SELECT DATA AND INSERT MENU
- **Step 5** : AFTER ADDING THE PERCENTAGE LABEL, THE CHART IS DISPLAYED
- **Step 6** : STOP THE PROCESS

SOURCE CODE:

SALES DATASET				
TOTAL DELIVERIES			1,03,184	
RANK	COUNTRY	SALES	SALES (%)	CUMMULATIVE
1	United States	\$50,145.00	49%	
	United			
2	Kingdom	\$4,756.00	4.60%	
3	Switzerland	\$2,024.00	2.00%	
4	Sweden	\$1,283.00	1.20%	
5	Norway	\$8,473.00	8%	
6	Netherlands	\$3,316.00	3.20%	
7	Italy	\$905.00	0.90%	
8	Germany	\$3,331.00	3.20%	
9	France	\$1,368.00	1.30%	
10	Canada	\$3,478.00	3.40%	
11	Belgium	\$1,151.00	1.10%	
12	Belgium	\$1,151.00	1.10%	
13	Austria	\$ 480.00	0.50%	
14	Australia	\$1,060.00	1%	
15	China	\$16,500.00	16.00%	

OUTPUT:



RESULT :

THUS, THE EXPERIMENT WAS SUCCESSFULLY EXECUTED AND VERIFIED.

2 CREATE BAR CHART FOR SALES BY COUNTRY BY YEAR

AIM:

TO CREATE BAR CHART FOR SALES BY COUNTRY BY YEAR USING EXCEL

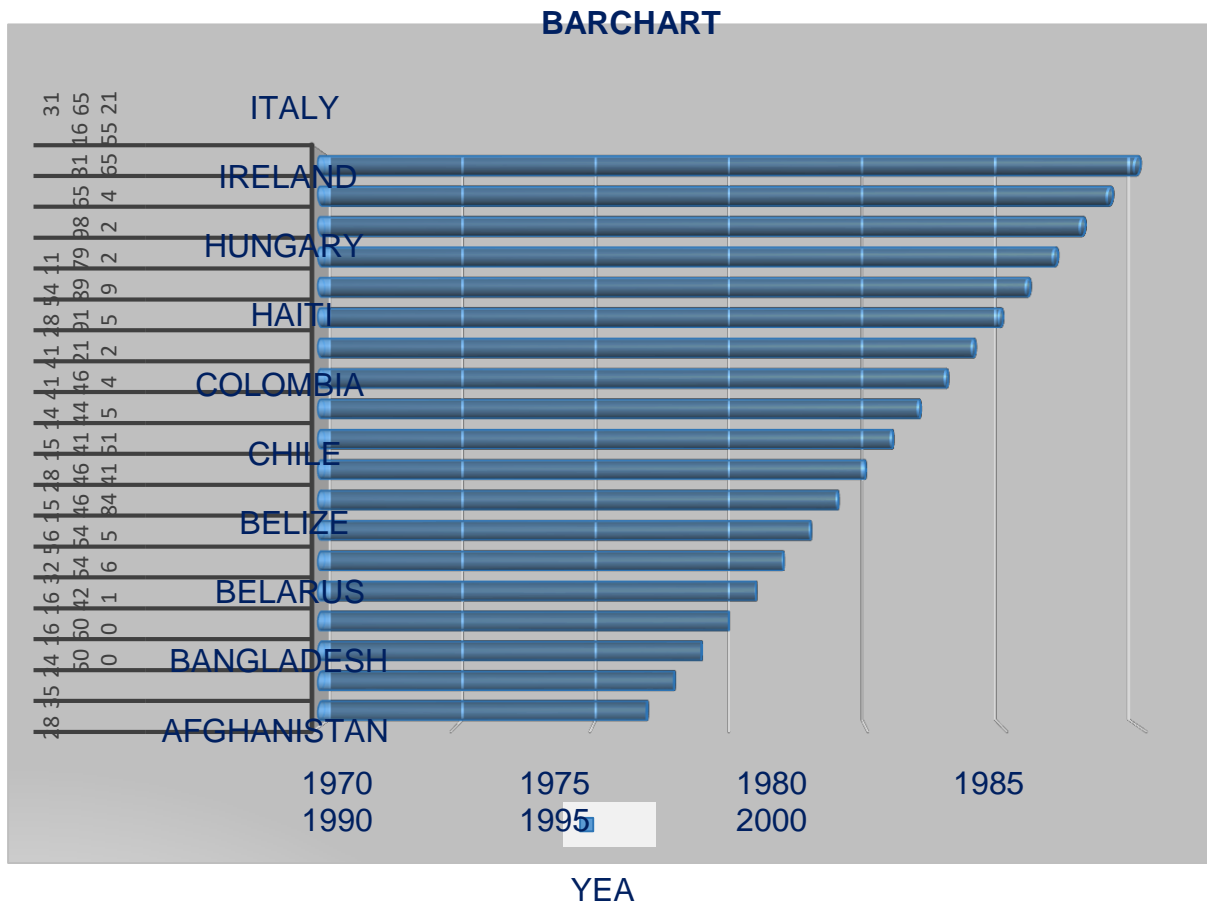
ALGORITHM :

- **Step 1 :** START THE PROCESS
- **Step 2 :** OPEN MS EXCEL
- **Step 3 :** IMPORT DATA TO EXCEL
- **Step 4 :** TO SELECT A BAR CHART, SELECT DATA AND INSERT MENU
- **Step 5 :** THE CHART IS DISPLAYED
- **Step 6 :** STOP THE PROCESS

SOURCE CODE:

SALES	COUNTRY	YEAR
28500	Afghanistan	1982
35600	Albania	1983
24421	Bangladesh	1984
16546	Barbados	1985
16545	Belarus	1986
324684	Belgium	1987
564641	Belize	1988
154151	Chad	1989
28445	Chile	1990
15464	China	1991
14212	Colombia	1992
41915	Comoros	1993
41899	Haiti	1994
28792	Honduras	1995
54982	Hungary	1996
11654	Iraq	1997
3165	Ireland	1998
1655	Israel	1999
316521	Italy	2000

OUTPUT:



RESULT:

THUS, THE EXPERIMENT WAS SUCCESSFULLY EXECUTED AND VERIFIED.

3 CREATE LINE CHAR FOR SALES BY SHIP MODE

AIM :

TO CREATE LINE CHAR FOR SALES BY SHIP MODE USING EXCEL

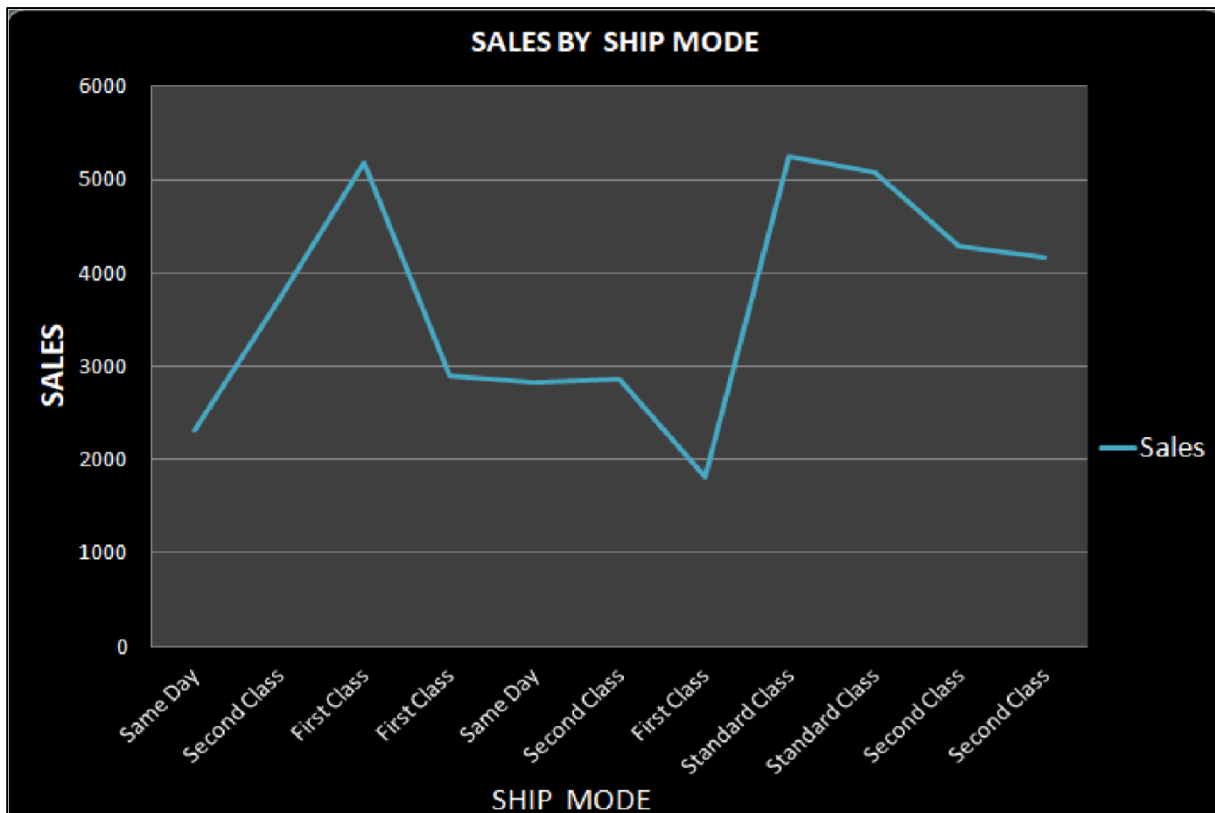
ALGORITHM :

- **Step 1 :** START THE PROCESS
- **Step 2 :** OPEN MS EXCEL
- **Step 3 :** IMPORT DATA TO EXCEL
- **Step 4 :** TO SELECT A LINE CHART, SELECT DATA AND INSERT MENU
- **Step 5 :** THE CHART IS DISPLAYED
- **Step 6 :** STOP THE PROCESS

SOURCE CODE:

	A	B	C	D	E
1	Product ID	Order ID	Ship Mode	Country	Sales
2	TEC-AC-10003033	CA-2012-124891	Same Day	United States	2309.65
3	FUR-CH-10003950	IN-2013-77878	Second Class	Australia	3709.395
4	TEC-PH-10004664	IN-2013-71249	First Class	Australia	5175.171
5	TEC-PH-10004583	ES-2013-1579342	First Class	Germany	2892.51
6	TEC-SHA-10000501	SG-2013-4320	Same Day	Senegal	2832.96
7	TEC-PH-10000030	IN-2013-42360	Second Class	Australia	2862.675
8	FUR-CH-10004050	IN-2011-81826	First Class	New Zealand	1822.08
9	FUR-TA-10002958	IN-2012-86369	Standard Class	New Zealand	5244.84
10	OFF-BI-10003527	CA-2014-135909	Standard Class	United States	5083.96
11	FUR-TA-10000198	CA-2012-116638	Second Class	United States	4297.644
12	OFF-SU-10002881	CA-2011-102988	Second Class	United States	4164.05

OUTPUT



RESULT :

THUS, THE EXPERIMENT WAS SUCCESSFULLY EXECUTED AND VERIFIED.

4 CREATE SCATTER CHART FOR SALES BY SHIP MODE BY COUNTRY

AIM :

TO CREATE SCATTER CHART FOR SALES BY SHIP MODE BY COUNTRY USING EXCEL

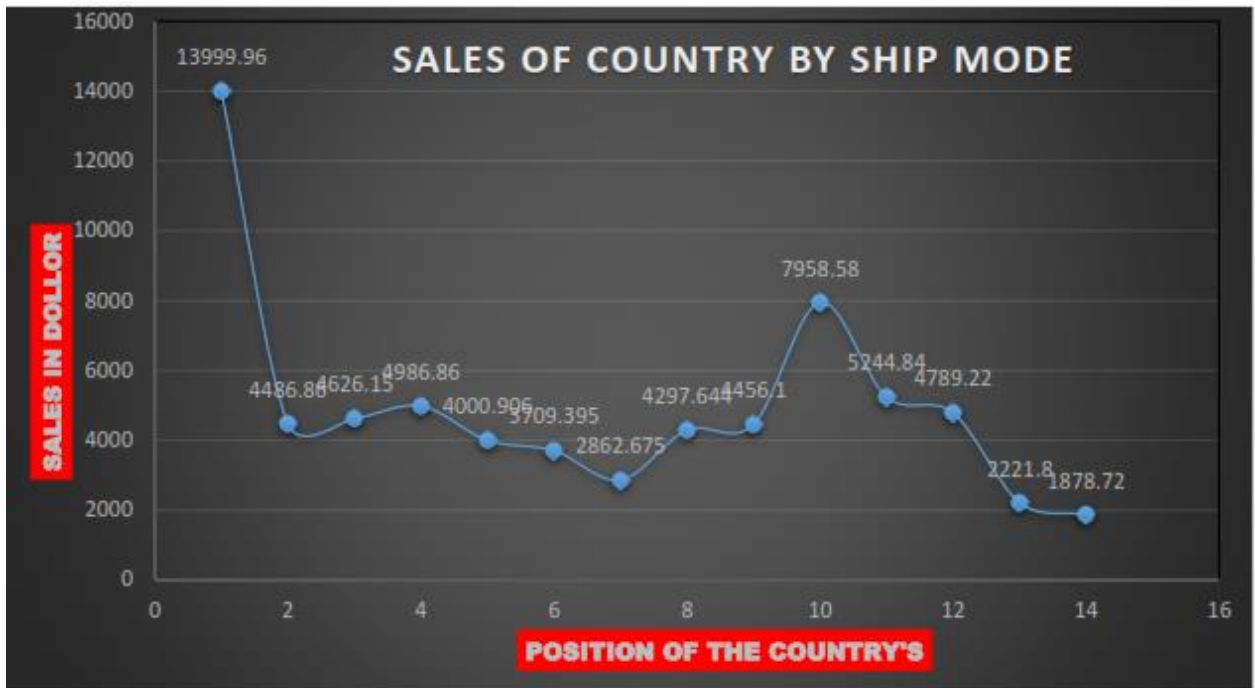
ALGORITHM :

- **Step 1 :** START THE PROCESS
- **Step 2 :** OPEN MS EXCEL
- **Step 3 :** IMPORT DATA TO EXCEL
- **Step 4 :** TO SELECT A SCATTER CHART, SELECT DATA AND INSERT MENU
- **Step 5 :** THE CHART IS DISPLAYED
- **Step 6 :** STOP THE PROCESS

SOURCE CODE:

SHIP MODE	COUNTRY	SALES
First Class	United States	13999.96
First Class	Ukraine	4486.86
First Class	Afghanistan	4626.15
First Class	India	4986.86
First Class	Greenland	4000.906
Second Class	Australia	3709.395
Second Class	Australia	2862.675
Second Class	United States	4297.644
Second Class	United States	4456.1
Standard Class	Italy	7958.58
Standard Class	New Zealand	5244.84
Standard Class	Brazil	4789.22
Same day	Brazil	2221.8
Same day	India	1878.72

OUTPUT:



RESULT :

THUS, THE EXPERIMENT WAS SUCCESSFULLY EXECUTED AND VERIFIED.

5 CREATE HEAT MAP FOR SALES BY CATEGORY BY SUB-CATEGORY

AIM :

TO CREATE HEAT MAP FOR SALES BY CATEGORY BY SUB- CATEGORY USING EXCEL

ALGORITHM :

- **Step 1 :** START THE PROCESS
- **Step 2 :** OPEN MS EXCEL
- **Step 3 :** IMPORT DATA TO EXCEL
- **Step 4 :** TO SELECT A COLOR SCALES, SELECT DATA, HOME MENU AND CONDITIONAL FORMATTING
- **Step 5 :** DISPLAY RESULT
- **Step 6 :** STOP THE PROCESS

SOURCE CODE:

Countries	Vegetables	Fruits	Stationaries	Arts	Furnitures	Oils	Machineries	Spices	Meats	Fashion
China	500	550	300	900	652	700	650	1000	900	200
Japan	200	220	40	600	356	650	556	650	700	150
America	800	1100	752	1557	1065	2225	1168	1250	1500	850
Russia	450	850	655	1025	998	365	987	1550	1650	950
Srilanka	180	125	101	32	132	167	123	100	250	250
England	170	180	300	95	655	653	458	300	150	450
Germany	155	160	215	115	698	559	655	200	125	320
Ukraine	100	80	65	325	99	347	312	150	70	100
South Africa	175	210	325	374	652	987	400	300	99	97
Thailand	90	120	98	600	150	650	300	250	50	50

OUTPUT

	A	B	C	D	E	F	G	H	I	J	K	L
1	Countries	Vegetables	Fruits	Stationaries	Arts	Furnitures	Oils	Machineries	Spices	Meats	Fashion	
2	China	500	550	300	900	652	700	650	1000	900	200	
3	Japan	200	220	40	600	356	650	556	650	700	150	
4	America	800	1100	752	1557	1065	2225	1168	1250	1500	850	
5	Russia	450	850	655	1025	998	365	987	1550	1650	950	
6	Srilanka	180	125	101	32	132	167	123	100	250	250	
7	England	170	180	300	95	655	653	458	300	150	450	
8	Germany	155	160	215	115	698	559	655	200	125	320	
9	Ukraine	100	80	65	325	99	347	312	150	70	100	
10	South africa	175	210	325	374	652	987	400	300	99	97	
11	Thailand	90	120	98	600	150	650	300	250	50	50	
12												

RESULT :

THUS, THE EXPERIMENT WAS SUCCESSFULLY EXECUTED AND VERIFIED.

6 DESIGN AND CREATE THE LABEL FOR VENDOR LIST

AIM :

TO DESIGN AND CREATE THE LABEL FOR VENDOR LIST USING EXCEL

ALGORITHM :

- **Step 1 :** START THE PROCESS
- **Step 2 :** OPEN MS EXCEL
- **Step 3 :** IMPORT DATA TO EXCEL AND SAVE FILE
- **Step 4 :** OPEN MS WORD
- **Step 5 :** SELECT MAILINGS MENU AND CLICK START MAIL MERGE
- **Step 6 :** CLICK LABELS, SELECT LABEL VENDORS AND CHOOSE AVERY US LETTER
- **Step 7 :** SELECT PRODUCT NUMBER 48160 ECO FRIENDLY ADDRESS LABELS
- **Step 8 :** CLICK SELCET RECIPIENTS AND SELECT USE AN EXISTING LIST CHOOSE EXCEL FILE
- **Step 9 :** SELECT INSERT MERGE FIELD AND SELECT ATTRIBUTES AND CLICK UPDATE LABELS
- **Step 10 :** CLICK FINISH & MERGE AND SELECT EDIT INDIVIDUAL DOCUMENTS
- **Step 11 :** DISPLAY RESULT
- **Step 12 :** STOP THE PROCESS

SOURCE CODE:

sk solution corperat										
EMPLOY DETAIL										
Employ NO:	Employ Name	GENDER	AGE	ADDRESS_RESIDENCY	BLOODGROUP	EMIL ADDRESS	DEPARTMENT	EXPERIENCE	SALERY PER MONTH	ANUAL SALERY
oo1	abdul .D	male	26		a+	abd@gmail.com	marketing	2	20000	2,40,000
oo2	adhas.S	male	27		b+	adhas@gmail.com	sales	3	30000	3,60,000
oo3	arun .S	male	28		ab+	arun@gmail.com	design	4	40000	4,80,000
oo4	arivu.A	male	29		b-	arivu200@gmail.com	requirement	5	50000	6,00,000
oo5	andu.L	male	26		ab-	andu100@gmail.com	testing	6	60000	7,20,000
oo6	adhe .H	male	25		O	adhe@gmail.com	development	10	70000	8,40,000
oo7	arsh.C	female	25		O+	arsh@gmail.com	management	18	20000	2,40,000
oo8	avena .B	female	21		O-	avena@gmail.com	fesibility	10	30000	3,60,000
oo9	bala .E	male	30		A-	bala@gmail.com	sales	9	50000	6,00,000
o10	babu .D	male	40		B_	babu@gmail.com	marketing	3	40000	4,80,000
o11	brindha .T	female	35		AB+	brindha@gmail.com	design	0	80000	9,60,000
o12	basker .R	male	29		B+	basker@gmail.com	testing	0	20000	2,40,000
o13	brama .S	male	25		A+	brama40@gmail.com	development	2	30000	3,60,000
o14	chanthran .d	male	23		AB-	chanthran@gmail.com	requirement	3	40000	4,80,000
o15	chanthra .j	female	22		O	chanthra@gmail.com	requirement	4	50000	6,00,000
o16	charle.d	male	24		O-	charle15@gmail.com	testing	5	70000	8,40,000
o17	dhanesh .N	male	26		O+	dhanesh@gmail.com	sales	6	80000	9,60,000
o18	dewaker .M	male	32		AB	dewa@gmail.com	marketing	7	40000	4,80,000
o19	davied .V	male	34		A	davied@gmail.com	marketing	8	80000	9,60,000
o20	dhaya .S	male	31		B+	dhaya@gmail.com	testing	9	20000	2,40,000

OUTPUT

Employno:001		Employno:002		Employno:003
EmployNAME:Abdul .D		EmployNAME:Adhas.s		EmployNAME:arun.s
GENDER:male		GENDER:male		GENDER:male
AGE:26		AGE:27		AGE:28
BLOODGROP:A+		BLOODGROP:B+		BLOODGROP:AB+
DEPARTMENT:marketing		DEPARTMENT:sales		DEPARTMENT:dasign
EXPERIENCE:2		EXPERIENCE:3		EXPERIENCE:4
Employno:004		Employno:005		Employno:006
EmployNAME:Arivu		EmployNAME:Anbu.L		EmployNAME:adhe .H
GENDER:Male		GENDER:Male		GENDER:
AGE:29		AGE:26		AGE:
BLOODGROP:B+		BLOODGROP:AB+		BLOODGROP:
DEPARTMENT:requi rement		DEPARTMENT:testing		DEPARTMENT:
EXPERIENCE:5		EXPERIENCE:6		EXPERIENCE:
Employno:007		Employno:008		Employno:009
EmployNAME:arsh. C		EmployNAME:avena .B		EmployNAME:bala .E
GENDER:female		GENDER:female		GENDER:male
AGE:25		AGE:21		AGE:30
BLOODGROP:A+		BLOODGROP:B+		BLOODGROP:AB-
DEPARTMENT:mana gement		DEPARTMENT:fesibility		DEPARTMENT:sales
EXPERIENCE:18		EXPERIENCE:10		EXPERIENCE:9
Employno:010		Employno:011		Employno:012
EmployNAME:babu .D		EmployNAME:brindha .T		EmployNAME:basker .R
GENDER:male		GENDER:Female		GENDER:male
AGE:40		AGE:20		AGE:29
BLOODGROP:AB+		BLOODGROP:O		BLOODGROP:O+
DEPARTMENT:markt ing		DEPARTMENT:design		DEPARTMENT:testing
EXPERIENCE:3		EXPERIENCE:0		EXPERIENCE:0
Employno:013		Employno:014		Employno:015
EmployNAME:bram a .S		EmployNAME:chanthra n .d		EmployNAME:chanthra a .j
GENDER:male		GENDER:male		GENDER:Female
AGE:25		AGE:23		AGE:22
BLOODGROP:B+		BLOODGROP:A-		BLOODGROP:AB+
DEPARTMENT:devel oper		DEPARTMENT:requirem ent		DEPARTMENT:require ment
EXPERIENCE:2		EXPERIENCE:3		EXPERIENCE:4

RESULT :

THUS, THE EXPERIMENT WAS SUCCESSFULLY EXECUTED AND VERIFIED.

7 DESIGN AND CREATE THE DASH BOARD

AIM :

TO DESIGN AND CREATE THE DASH BOARD USING EXCEL

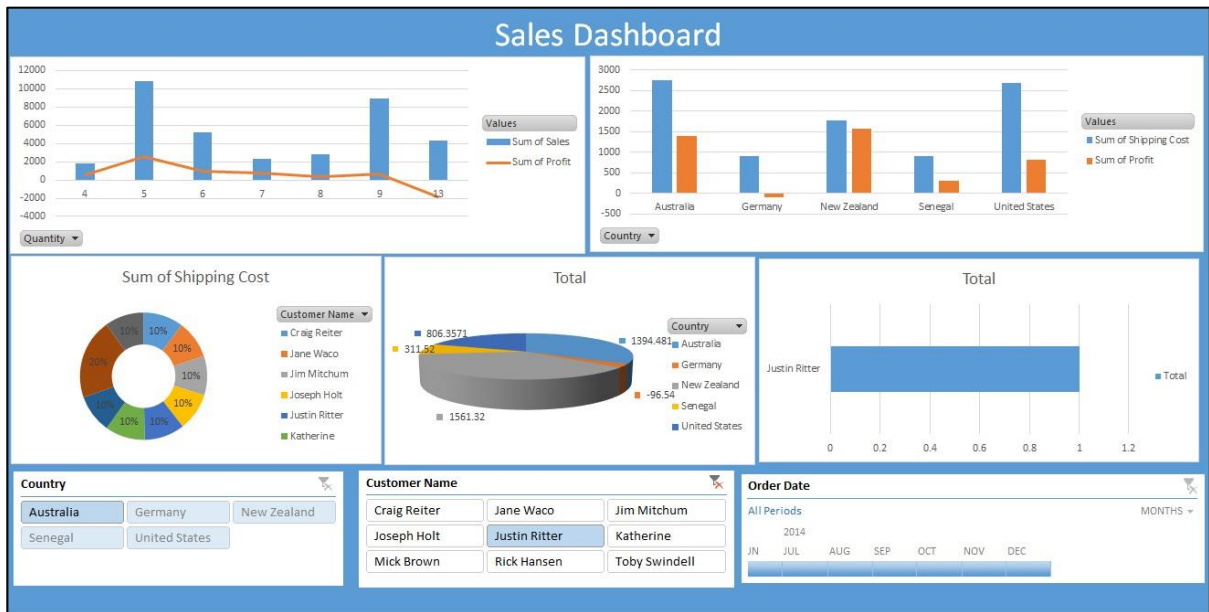
ALGORITHM :

- **Step 1 :** START THE PROCESS
- **Step 2 :** OPEN MS EXCEL
- **Step 3 :** IMPORT DATA TO EXCEL
- **Step 4 :** TO SELECT A BAR, PIE, BAR CHART AND SO ON , SELECT DATA AND INSERT MENU
- **Step 5 :** DISPLAY THE DASH BOARD
- **Step 6 :** STOP THE PROCESS

SOURCE CODE:

Order Date	Ship Date	Customer Name	Segment	City	State	Country	Product ID	Category	Sub-Categor	Sales	Quantity	Profit	Shipping Cost	Order Priority
31-07-2012	31-07-2012	Rick Hansen	Consumer	New York	New York	United States	TEC-AC-10003033	Technology	Accessories	2309.65	7	762.185	933.57	Critical
05-02-2013	07-02-2013	Justin Ritter	Corporate	Wollongong	New South	Australia	FUR-CH-10003950	Furniture	Chairs	3709.4	9	-288.77	923.63	Critical
17-10-2013	18-10-2013	Craig Reiter	Consumer	Brisbane	Queensland	Australia	TEC-PH-10004664	Technology	Phones	5175.17	9	919.971	915.49	Medium
28-01-2013	30-01-2013	Katherine	Home Office	Berlin	Berlin	Germany	TEC-PH-10004583	Technology	Phones	2892.51	5	-96.54	910.16	Medium
05-11-2013	06-11-2013	Rick Hansen	Consumer	Dakar	Dakar	Senegal	TEC-SHA-10000501	Technology	Copiers	2832.96	8	311.52	903.04	Critical
28-06-2013	01-07-2013	Jim Mitchum	Corporate	Sydney	New South	Australia	TEC-PH-10000030	Technology	Phones	2862.68	5	763.275	897.35	Critical
07-11-2011	09-11-2011	Toby Swindell	Consumer	Porirua	Wellington	New Zealand	FUR-CH-10004050	Furniture	Chairs	1822.08	4	564.84	894.77	Critical
14-04-2012	18-04-2012	Mick Brown	Consumer	Hamilton	Waikato	New Zealand	FUR-TA-10002958	Furniture	Tables	5244.84	6	996.48	878.38	High
14-10-2014	21-10-2014	Jane Waco	Corporate	Sacramento	California	United States	OFF-BI-10003527	Office Suppl	Binders	5083.96	5	1906.49	867.69	Low
28-01-2012	31-01-2012	Joseph Holt	Consumer	Concord	North Carolina	United States	FUR-TA-10000198	Furniture	Tables	4297.64	13	-1862.3	865.74	Critical

OUTPUT



RESULT :

THUS, THE EXPERIMENT WAS SUCCESSFULLY EXECUTED AND VERIFIED.

8 SALES BY SHIP MODE

AIM :

TO CREATE CHART SALES BY SHIP MODE USING TABLEAU

ALGORITHM :

- **Step 1 :** START THE PROCESS
- **Step 2 :** OPEN TABLEAU
- **Step 3 :** IMPORT DATA TO TABLEAU
- **Step 4 :** CREATE CHART USING DRAG AND DROP METHOD
- **Step 5 :** COLUMN IS SUM OF SALES
- **Step 6 :** ROW IS SHIP MODE AND COUNTRY
- **Step 7 :** DISPLAY THE RESULT
- **Step 8 :** STOP THE PROCESS

SOURCE CODE:

Product ID	Ship Mode	Country	Sales
TEC-AC-10003033	Same Day	United States	2309.65
FUR-CH-10003950	Second Class	Australia	3709.395
TEC-PH-10004664	First Class	Australia	5175.171
TEC-PH-10004583	First Class	United States	2892.51
TEC-SHA-1000501	Same Day	United States	2832.96
TEC-PH-10005011	Second Class	Italy	2862.675
FUR-CH-10004050	First Class	New Zealand	1822.08
FUR-TA-10002958	Standard Class	Brazil	5244.84
OFF-BI-10003527	Standard Class	United States	5083.96
FUR-TA-10000198	Second Class	India	4297.644
OFF-SU-10002881	Second Class	United States	4164.05

OUTPUT:

The screenshot shows the Tableau Public interface with a data source connected to Microsoft Excel. The data preview table is as follows:

Product ID	Ship Mode	Country	Sales
TEC-AC-10003033	Same Day	United States	2,309.65
FUR-CH-10003950	Second Class	Australia	3,709.40
TEC-PH-10004664	First Class	Australia	5,175.17
TEC-PH-10004583	First Class	United States	2,892.51
TEC-SHA-1000501	Same Day	United States	2,832.96
TEC-PH-10005011	Second Class	Italy	2,862.68
FUR-CH-10004050	First Class	New Zealand	1,822.08
FUR-TA-10002958	Standard Class	Brazil	5,244.84
OFF-BI-10003527	Standard Class	United States	5,083.96
FUR-TA-10000198	Second Class	India	4,297.64

The screenshot shows the Tableau Public interface with a horizontal bar chart visualization. The chart displays sales data grouped by Ship Mode and Country. The x-axis represents Sales, ranging from 0 to 5500. The y-axis lists Ship Modes and Countries. The bars are colored blue.

Ship Mode	Country	Sales
First Class	Australia	5,175.17
	New Zealand	1,822.08
	United States	2,892.51
Same Day	United States	2,309.65
	United States	2,832.96
Second Class	Australia	3,709.40
	India	4,297.64
	Italy	2,862.68
Standard Class	United States	5,083.96
	Brazil	5,244.84

RESULT :

THUS, THE EXPERIMENT WAS SUCCESSFULLY EXECUTED AND VERIFIED.

9 SALES BY SHIP MODE BY COUNTRY

AIM :

TO CREATE CHART SALES BY SHIP MODE BY COUNTRY USING TABLEAU

ALGORITHM :

- **Step 1 :** START THE PROCESS
- **Step 2 :** OPEN TABLEAU
- **Step 3 :** IMPORT DATA TO TABLEAU
- **Step 4 :** CREATE CHART USING DRAG AND DROP METHOD
- **Step 5 :** COLUMN IS SHIP MODE AND SHIP MODE 1
- **Step 6 :** ROW IS SUM OF SHIP MODE 2
- **Step 7 :** DISPLAY THE RESULT
- **Step 8 :** STOP THE PROCESS

SOURCE CODE:

SHIP MODE	COUNTRY	SALES
First Class	United States	13999.96
First Class	Ukraine	4486.86
First Class	Afghanistan	4626.15
First Class	India	4986.86
First Class	Greenland	4000.906
Second Class	Australia	3709.395
Second Class	Australia	2862.675
Second Class	United States	4297.644
Second Class	United States	4456.1
Standard Class	Italy	7958.58
Standard Class	New Zealand	5244.84
Standard Class	Brazil	4789.22
Same day	Brazil	2221.8
Same day	India	1878.72

OUTPUT

Tableau Public - Book1

File Data Window Help

Sheet1 (9) Filters 0 | Add

Sheet1 3 fields 14 rows 14 rows

Name	Sheet1
Ship Mode <td>SHIP MODE</td>	SHIP MODE
Ship Mode 1 <td>SHIP MODE 1</td>	SHIP MODE 1
Ship Mode 2 <td>SHIP MODE 2</td>	SHIP MODE 2

Type	Field Name	Physical Table	Remote Field Na...
Abc	Ship Mode	Sheet1	SHIP MODE
Abc	Ship Mode 1	Sheet1	SHIP MODE 1
#	Ship Mode 2	Sheet1	SHIP MODE 2

Ship Mode	Ship Mode 1	Ship Mode 2
First Class	United States	13,999.96
First Class	Ukraine	4,486.86
First Class	Afghanistan	4,626.15
First Class	India	4,986.86
First Class	Greenland	4,000.91
Second Class	Australia	3,709.40
Second Class	Australia	2,862.68
Second Class	United States	4,297.64
Second Class	United States	4,456.10
Standard Class	Italy	7,958.58
Standard Class	New Zealand	5,244.84
Standard Class	Brazil	4,789.22
Same day	Brazil	2,221.80
Same day	India	1,878.72

Data Source Sheet1

Tableau Public - Book1

File Data Worksheet Dashboard Story Analysis Map Format Server Window Help

Standard Show Me

Columns: Ship Mode, Ship Mode 1

Rows: SUM(Ship Mode 2)

Sheet 1

Ship Mode	Ship Mode 1	SUM(Ship Mode 2)
First Class	Afganistan	4,626.15
First Class	Greenland	4,000.91
First Class	India	4,986.86
First Class	Ukraine	4,486.86
First Class	United States	13,999.96
Same day	Brazil	2,221.80
Same day	India	1,878.72
Second Class	Australia	3,709.40
Second Class	United States	4,456.10
Standard Class	Brazil	4,789.22
Standard Class	Italy	7,958.58
Standard Class	New Zealand	5,244.84

Data Source Sheet 1

12 marks 1 row by 12 columns SUM(Ship Mode 2): 69,520

RESULT :

THUS, THE EXPERIMENT WAS SUCCESSFULLY EXECUTED AND VERIFIED.

10 SALES BY CATEGORY BY SUB - CATEGORY

AIM :

TO CREATE CHART SALES BY CATEGORY BY SUB - CATEGORY USING TABLEAU

ALGORITHM :

- **Step 1 :** START THE PROCESS
- **Step 2 :** OPEN TABLEAU
- **Step 3 :** IMPORT DATA TO TABLEAU
- **Step 4 :** CREATE MAP CHART USING DRAG AND DROP METHOD
- **Step 5 :** COLUMN IS LONGITUDE
- **Step 6 :** ROW IS LATITUDE
- **Step 7 :** ADD MARKS COUNTRY, COMMODITY , SUM OF VALUE AND YEAR
- **Step 8 :** DISPLAY THE RESULT
- **Step 9 :** STOP THE PROCESS

SOURCE CODE:

HSCode	Commodity	value	country	year
2	MEAT AND EDIBLE MEAT OFFAL.	1.4	AFGHANISTAN	2010
3	FISH AND CRUSTACEANS, MOLLUSCS AND OTHER AQUATIC INVERTEBRATES.	0.08	AFGHANISTAN	2010
4	DAIRY PRODUCE; BIRDS' EGGS; NATURAL HONEY; EDIBLE PROD. OF ANIMAL ORIGIN, NOT ELSEWHERE SPEC. OR INCLUDED.	3.89	AFGHANISTAN	2010
5	PRODUCTS OF ANIMAL ORIGIN, NOT ELSEWHERE SPECIFIED OR INCLUDED.		AFGHANISTAN	2010
6	LIVE TREES AND OTHER PLANTS; BULBS; ROOTS AND THE LIKE; CUT FLOWERS AND ORNAMENTAL FOLIAGE.		AFGHANISTAN	2010
7	EDIBLE VEGETABLES AND CERTAIN ROOTS AND TUBERS.	0.17	AFGHANISTAN	2010
8	EDIBLE FRUIT AND NUTS; PEEL OR CITRUS FRUIT OR MELONS.	0.12	AFGHANISTAN	2010
9	COFFEE, TEA, MATE AND SPICES.	4	AFGHANISTAN	2010
10	CEREALS.	0.03	AFGHANISTAN	2010
11	PRODUCTS OF THE MILLING INDUSTRY; MALT; STARCHES; INULIN; WHEAT GLUTEN.	0.01	AFGHANISTAN	2010
12	OIL SEEDS AND OLEA. FRUITS; MISC. GRAINS, SEEDS AND FRUIT; INDUSTRIAL OR MEDICINAL PLANTS; STRAW AND FODDER.	0.07	AFGHANISTAN	2010
13	LAC; GUMS, RESINS AND OTHER VEGETABLE SAPS AND EXTRACTS.	0.07	AFGHANISTAN	2010
14	VEGETABLE PLAITING MATERIALS; VEGETABLE PRODUCTS NOT ELSEWHERE SPECIFIED OR INCLUDED.	0.01	AFGHANISTAN	2010
15	ANIMAL OR VEGETABLE FATS AND OILS AND THEIR CLEAVAGE PRODUCTS; PRE. EDIBLE FATS; ANIMAL OR VEGETABLE WAXEX.	0.03	AFGHANISTAN	2010
16	PREPARATIONS OF MEAT, OF FISH OR OF CRUSTACEANS, MOLLUSCS OR OTHER AQUATIC INVERTEBRATES	0	AFGHANISTAN	2010
17	SUGARS AND SUGAR CONFECTIONERY.	0.58	AFGHANISTAN	2010
18	COCOA AND COCOA PREPARATIONS.		AFGHANISTAN	2010
19	PREPARATIONS OF CEREALS, FLOUR, STARCH OR MILK; PASTRYCOOKS PRODUCTS.	0.2	AFGHANISTAN	2010
20	PREPARATIONS OF VEGETABLES, FRUIT, NUTS OR OTHER PARTS OF PLANTS.	1.12	AFGHANISTAN	2010
21	MISCELLANEOUS EDIBLE PREPARATIONS.	0.24	AFGHANISTAN	2010
22	BEVERAGES, SPIRITS AND VINEGAR.	0.03	AFGHANISTAN	2010
23	RESIDUES AND WASTE FROM THE FOOD INDUSTRIES; PREPARED ANIMAL FODER.	0	AFGHANISTAN	2010
24	TOBACCO AND MANUFACTURED TOBACCO SUBSTITUTES.	22.14	AFGHANISTAN	2010

OUTPUT:

Tableau Public - Book2

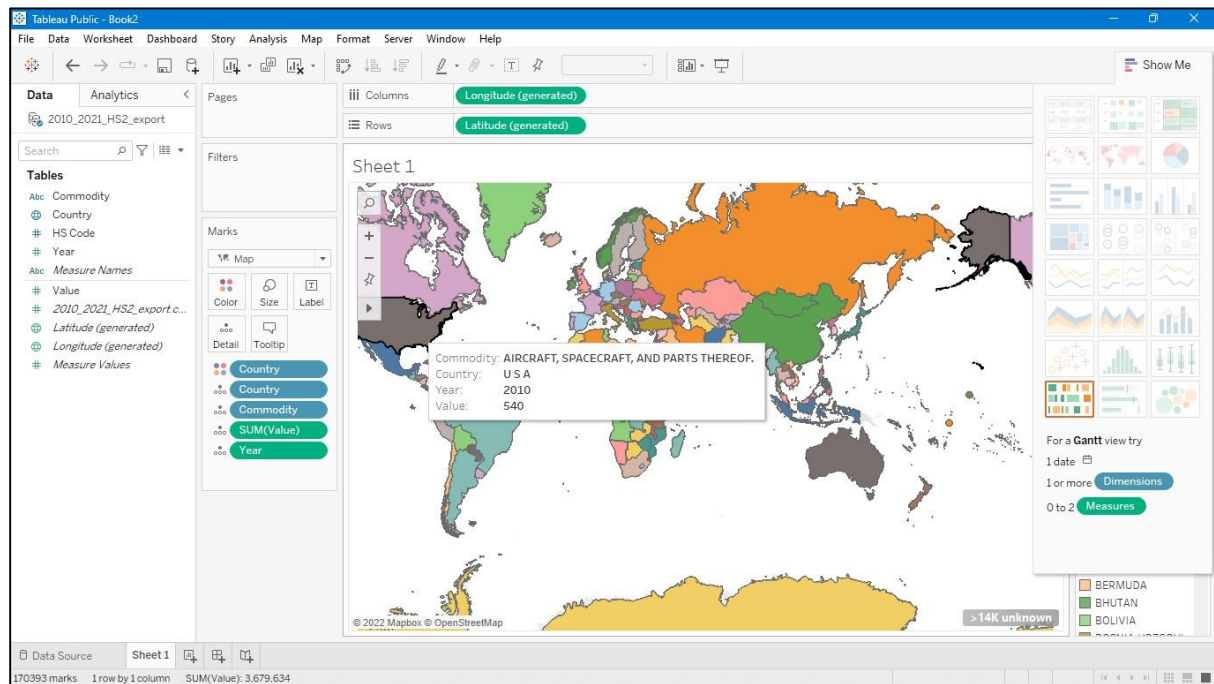
2010_2021_HS2_export

2010_2021_HS2_export.csv

2010_2021_HS2_export.csv 5 fields 184755 rows

Name	Type	Field Name	Physical Table	Rem...
#	HS Code	2010_2021_HS2_export.c...	HSCode	
Abc	Commodity	2010_2021_HS2_export.c...	Com...	
#	Value	2010_2021_HS2_export.c...	value	
⊕	Country	2010_2021_HS2_export.c...	country	
#	Year	2010_2021_HS2_export.c...	year	

#	2010_2021_HS2_export.csv	Abc	2010_2021_HS2_export.csv	#	2010_2021_HS2_export.csv	⊕	2010_2021_HS2_export.csv
HS Code	Commodity	Value	Country				
59	IMPREGNATEI...	0.32	HONG KONG				
60	KNITTED OR CROCHETED F...	0.33	HONG KONG				
61	ARTICLES OF APPAREL AND ...	23.43	HONG KONG				
62	ARTICLES OF APPAREL AND ...	47.57	HONG KONG				
63	OTHER MADE UP TEXTILE A...	5.34	HONG KONG				
64	FOOTWEAR, GAITERS AND T...	11.43	HONG KONG				
65	HEADGEAR AND PARTS THE...	0.03	HONG KONG				
66	UMBRELLAS, SUN UMBRELL...	0.00	HONG KONG				
67	PREPARED FEATHERS AND ...	19.90	HONG KONG				
68	ARTICLES OF STONE, PLAST...	2.40	HONG KONG				
69	CERAMIC PRODUCTS.	0.17	HONG KONG				
70	GLASS AND GLASSWARE.	3.04	HONG KONG				



RESULT :

THUS, THE EXPERIMENT WAS SUCCESSFULLY EXECUTED AND VERIFIED.

Reference Books:

1. Cole Nussbaumer Knaflic, “Storytelling with Data: A Data Visualization Guide for Business Professionals”, John Wiley & Sons, Inc., 2015.
2. Edward R. Tufte, “The Visual Display of Quantitative Information”, Second Edition, Graphics Press, 2001.
3. Kieran Healy, “Data Visualization: A Practical Introduction”, Princeton University Press, 2019.
4. Stephen few, “Information Dashboard Design: Displaying Data for At-a-Glance Monitoring”, Second Edition, Analytics Press, 2013.
5. Scott Murray, “Interactive Data Visualization for the Web”, Second Edition, O’Reilly Media, Inc., 2017.

Website References:

1. Note: Use the following Dataset
http://www.tableau.com/sites/default/files/training/global_superstore.zip
2. <https://datavizcatalogue.com/>
3. <https://flowingdata.com/>
4. <https://www.datacamp.com/>
5. <https://d3js.org/>