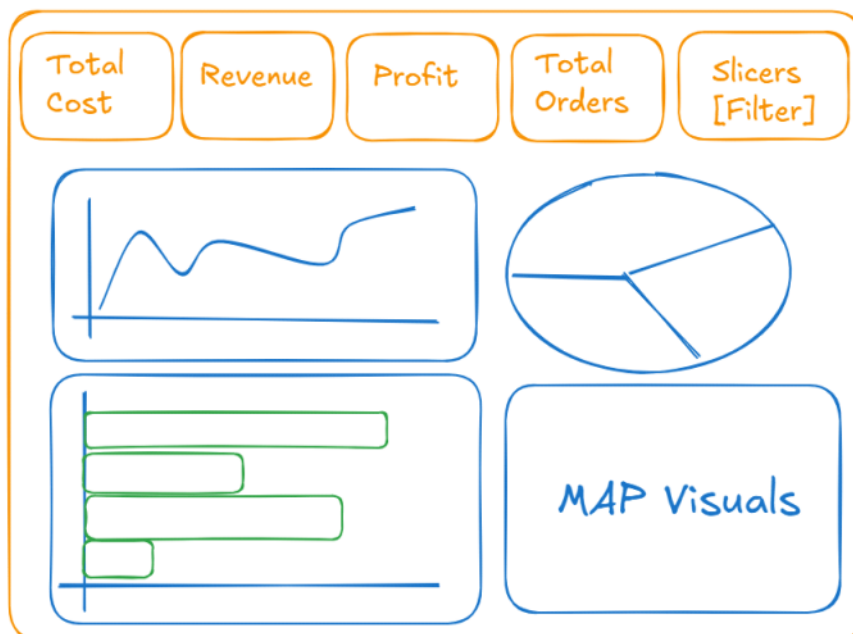


Data Analysis(Part-I)

Learning Goals:

- ◆ Learn pivot tables and their powerful data summarization capabilities.
- ◆ Explore advanced pivot table features like filters, grouping, slicers, and `GETPIVOTDATA`.
- ◆ Create charts and analyze data visually in Excel.
- ◆ Understand different types of charts and pivot charts in Excel
- ◆ Learn how to create dashboards using pivot tables and charts
- ◆ Get introduced to univariate analysis in data science

Dashboard



Rep	Richard		Rep	James	
Sum of total sales	Column Labels		Sum of total sales	Column Labels	
Row Labels	East	Grand Total	Row Labels	West	Grand Total
Binder	858.76	858.76	Binder	139.93	139.93
Pen	575.36	575.36	Desk	825	825
Pen Set	565.22	565.22	Pen	151.24	151.24
Pencil	363.7	363.7	Pencil	167.44	167.44
Grand Total	2363.04	2363.04	Grand Total	1283.61	1283.61

DRILL DOWN

PivotTable Fields

Choose fields to add to report:

Search

☐ OrderDate
☒ Region
☒ Rep
☒ Item
☐ Units
☐ Unit Price
☒ total sales

Drag fields between areas below:

Filters
 Region

Columns
 Region

Rows
 Rep

Σ Values
 Sum of total sales

Sum of total sales	Column Labels			
Row Labels	Central	East	West	Grand Total
Alex	2812.19			2812.19
Bill	1749.87			1749.87
James			1283.61	1283.61
Matthew	3109.44			3109.44
Morgan	1387.77			1387.77
Nick		536.75		536.75
Rachel	438.37			438.37
Richard		2363.04		2363.04
Smith	1641.43			1641.43
Susan		3102.3		3102.3
Thomas			1203.11	1203.11
Grand Total	11139.07	6002.09	2486.72	19627.88

PivotTable Analyze Design

Wrap Text
 Merge & Center
 General
 Number
 Conditional Formatting
 Format as Table

Field List
 +/-
 Field Headers
 Show

Rep	James
Sum of total sales	Column Labels
Row Labels	West
Binder	139.93
Desk	825
Pen	151.24
Pencil	167.44
Grand Total	1283.61

Row Labels	Count of Item
Alex	5
Bill	5
James	4
Matthew	4
Morgan	3
Nick	2
Rachel	4
Richard	8
Smith	3
Susan	3
Thomas	2
Grand Total	43

CTRL + T

Serial Number	OrderDate	Region	Rep	Item	Units	Unit Price	total sales
1	04-Jul-14	East	Richard	Pen Set	62	4.99	309.38
2	12-Jul-14	East	Nick	Binder	29		
3	21-Jul-14	Central	Morgan	Pen Set	55		
4	29-Jul-14	East	Susan	Binder	81		
5	07-Aug-14	Central	Matthew	Pen Set	42		
6	15-Aug-14	East	Richard	Pencil	35		
7	24-Aug-14	West	James	Desk	3		
8	01-Sep-14	Central	Smith	Desk	2	125	250
9	10-Sep-14	Central	Bill	Pencil	7	1.29	9.03
10	18-Sep-14	East	Richard	Pen Set	16	15.99	255.84
11	27-Sep-14	West	James	Pen	76	1.99	151.24
12	05-Oct-14	Central	Morgan	Binder	28	8.99	251.72
13	14-Oct-14	West	Thomas	Binder	57	19.99	1139.43
14	22-Oct-14	East	Richard	Pen	64	8.99	575.36

Create Table

Where is the data for your table?

\$A\$1:\$H\$44

☒ My table has headers

OK Cancel

Table Design

Table Name:

PivotTable

Resize Table

Properties

PivotTable from table or range

Select a table or range

Table/Range: PivotTable

Choose where you want the PivotTable to be placed

☒ New Worksheet

☐ Existing Worksheet

Location:

Choose whether you want to analyze multiple tables

☒ Add this data to the Data Model

OK Cancel

- PivotTable
- ☐ Serial Number
 - ☐ OrderDate
 - ☐ Region
 - ☐ Rep
 - ☐ Item

Row Labels Count of Item

Alex

Bill

James

Matthew

Morgan

Nick

Rachel

Richard

Smith

Susan

Thomas

Grand Total

4

Search the menus

- Copy
- Format Cells...
- Number Format...
- Refresh
- Delete PivotTable
- Sort
- Remove "Count of Item"
- Summarize Values By
- Show Values As
- Show Details
- Additional Actions
- Value Field Settings...
- PivotTable Options...
- Hide Field List

Sum

Count

Average

Max

Min

Product

Distinct Count

More Options...

Sheet1

Accessibility: Investigate

Grouping the data

Row Labels	Sum of total sales
04-07-2014	309.38
12-07-2014	57.74
21-07-2014	686.95
29-07-2014	1619.19
07-08-2014	1005.9
15-08-2014	174.65
24-08-2014	825
01-09-2014	250
10-09-2014	9.03
18-09-2014	255.84
27-09-2014	151.24
05-10-2014	251.72
14-10-2014	1139.43
22-10-2014	575.36
31-10-2014	18.06
08-11-2014	299.85
17-11-2014	54.89
25-11-2014	479.04
04-12-2014	1879.06
12-12-2014	86.43

right click to change it to month.

Row Labels	Sum of total sales
Jan	1602.09
Feb	2044.33
Mar	556.87
Apr	1059.03
May	1300.35
Jun	1613.5
Jul	2673.23
Aug	2005.55
Sep	666.11
Oct	1984.57
Nov	833.78
Dec	3288.47
Grand Total	19627.88

Rows	Values
OrderDate (Month)	Sum of total sales
OrderDate	

Row Labels	Refresh
Jan	Delete PivotTable
Feb	Sort
Mar	Filter
Apr	Subtotal "OrderDate (Month)"
May	Expand/Collapse
Jun	Group...
Jul	
Aug	
Sep	

Grouping

Auto

☐ Starting at: 00:00:00

☐ Ending at: 00:00:00

By

Seconds
Minutes
Hours
Days
Months
Quarters
Years

Number of days: 1

OK Cancel

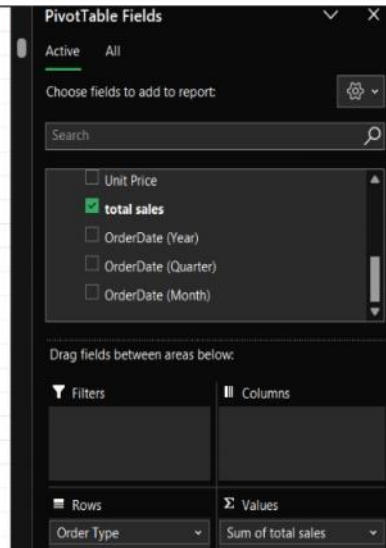
Units [Grouped based on Condition]

<10 -> Regular Order
<50 -> Average Order
>50 -> Bulk Order

Order Categories

Region	Rep	Item	Year	Units	Order Type
East	Richard	Pen Set	2014	62	Bulk Order
East	Nick	Binder	2014	29	Average Order
Central	Morgan	Pen Set	2014	55	Bulk Order
East	Susan	Binder	2014	81	Bulk Order
Central	Matthew	Pen Set	2014	42	Average Order
East	Richard	Pencil	2014	35	Average Order
West	James	Desk	2014	3	Regular Order
Central	Smith	Desk	2014	2	Regular Order
Central	Bill	Pencil	2014	7	Regular Order
East	Richard	Pen Set	2014	16	Average Order

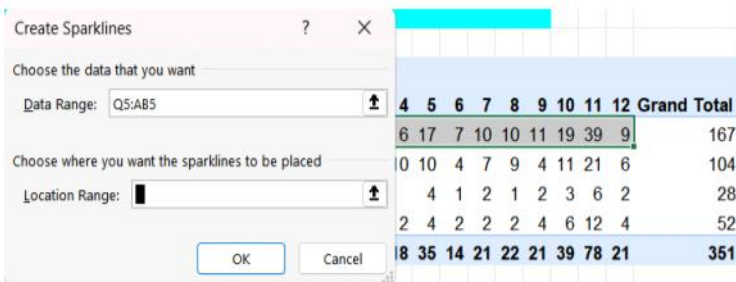
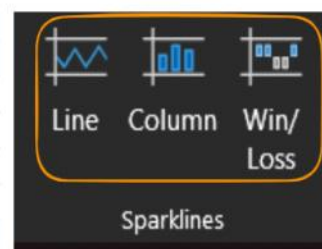
Row Labels	Sum of total sales
Average Order	3454.93
Bulk Order	14304.03
Regular Order	1868.92
Grand Total	19627.88



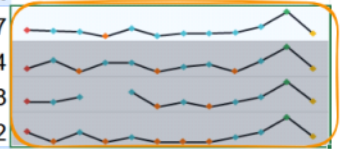
=IFS([@Units]<10,"Regular Order",[@Units]<50,"Average Order",[@Units]>=50,"Bulk Order")

SPARKLINE

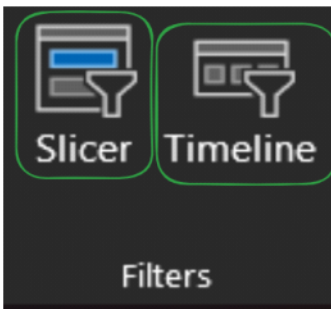
Count of QUANTITYORDERED														Col
Row Labels	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total	
Classic Cars	14	13	12	6	17	7	10	10	11	19	39	9	167	
Motorcycles	6	12	4	10	10	4	7	9	4	11	21	6	104	
Trucks and Buses	2	2	3		4	1	2	1	2	3	6	2	28	
Vintage Cars	6	2	6	2	4	2	2	2	4	6	12	4	52	
Grand Total	28	29	25	18	35	14	21	22	21	39	78	21	351	



Order Qty	Order												
ProductLine	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
Classic Cars	14	13	12	6	17	7	10	10	11	19	39	9	167
Motorcycles	6	12	4	10	10	4	7	9	4	11	21	6	104
Trucks and Buses	2	2	3		4	1	2	1	2	3	6	2	28
Vintage Cars	6	2	6	2	4	2	2	2	4	6	12	4	52
Grand Total	28	29	25	18	35	14	21	22	21	39	78	21	351

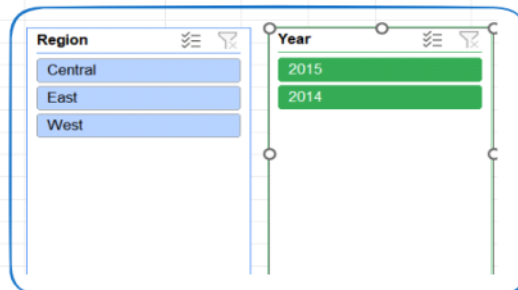


Order Qty	Order Month												
ProductLine	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
Classic Cars	14	13	12		6	17	7		10	10	11		167
Motorcycles	6	12	4		10	10	4		7	9	4		104
Trucks and Buses	2	2	3			4	1		2	1	2		28
Vintage Cars	6	2	6		2	4	2		2	2	4		52
Grand Total	28	29	25		18	35	14		21	22	21		351



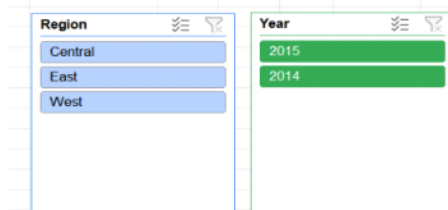
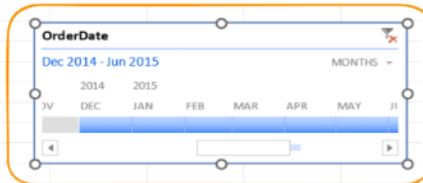
Sum of total sales				
Row Labels	Central	East	West	Grand Total
Alex	2812.19			2812.19
Bill	1749.87			1749.87
James			1283.61	1283.61
Matthew	3109.44			3109.44
Morgan	1387.77			1387.77
Nick		536.75		536.75
Rachel	438.37			438.37
Richard		2363.04		2363.04
Smith	1641.43			1641.43
Susan		3102.3		3102.3
Thomas			1203.11	1203.11
Grand Total	11139.07	6002.09	2486.72	19627.88

Sum of total sales				
Row Labels	Central	East	West	Grand Total
Binder	5762.63	2535.66	1279.36	9577.65
Desk	875		825	1700
Pen	539.73	1354.25	151.24	2045.22
Pen Set	2421.39	1748.48		4169.87
Pencil	1540.32	363.7	231.12	2135.14
Grand Total	11139.07	6002.09	2486.72	19627.88



Row Labels	Count of Item
Alex	5
Bill	5

Sum of total sales				
Row Labels	Central	East	West	Grand Total
Binder	5456.02	858.76	139.93	6454.71
Desk	625			625
Pen	539.73	479.04		1018.77
Pen Set	249.5	1183.26		1432.76
Pencil	1513.23	189.05	231.12	1933.4
Grand Total	8383.48	2710.11	371.05	11464.64



Row Labels | Sum of SALES

1-3	377314.92
4-6	369874.58
7-9	328653.58
10-12	631585.53
Grand Total	1707428.61

Grouping dialog: Starting at: 1, Ending at: 12, By: 3

Row Labels | Sum of total sales

2-11	1923.81
12-21	573.75
22-31	988.88
32-41	417.97
42-51	2668.44
52-61	2900.99
62-71	1102.51
72-81	3822.14
82-91	2203.20
92-101	3026.19
Grand Total	19627.88

Grouping dialog: Starting at: 2, Ending at: 96, By: 10

PivotTable Field List: Filters, Columns, Rows (Units), Values (Sum of total sales)

GETPIVOTDATA()

=GETPIVOTDATA(
GETPIVOTDATA(data_field,pivot_table, [field1, item1], ...)

SUM OF "Total Sales"

Sum of total sales

Row Labels	Central	East	West	Grand Total
Binder	5456.02	858.76	139.93	6454.71
Desk	629			625
Pen	539.73	479.04		1018.77
Pen Set	249.5	1183.26		1432.76
Pencil	1513.23	189.05	231.12	1933.4
Grand Total	8383.48	2710.11	371.05	11464.64

OrderDate: Dec 2014 - Jun 2015

1183.26

=GETPIVOTDATA("Total Sales",\$Q\$4,"Region","East","Item","Pen Set")

=GETPIVOTDATA("Total Sales",\$Q\$4,"Region",S5,"Item",Q9)

Formula Bar: `=GETPIVOTDATA("Total Sales",Q4,"Region",S5,"Item",$Q9)`

Sum of total sa	Central	East	West	Grand Total
Binder	5456.02	858.76	139.93	6454.71
Desk	625			625
Pen	539.73	479.04		1018.77
Pen Set	249.5	1183.26		1432.76
Pencil	1513.23	189.05	231.12	1933.4
Grand Total	8383.48	2710.11	371.05	11464.64

Formula Bar: `=GETPIVOTDATA("Item",K23,"Rep",K28)`

Row Labels	Count of Item
Alex	5
Bill	5
James	4
Matthew	4
Morgan	3
Nick	2
Rachel	4
Richard	8
Smith	3
Susan	3
Thomas	2
Grand Total	43

`=GETPIVOTDATA("Item", K23, "Rep", K28)`

PIVOT CHARTS....

session_11.dataset

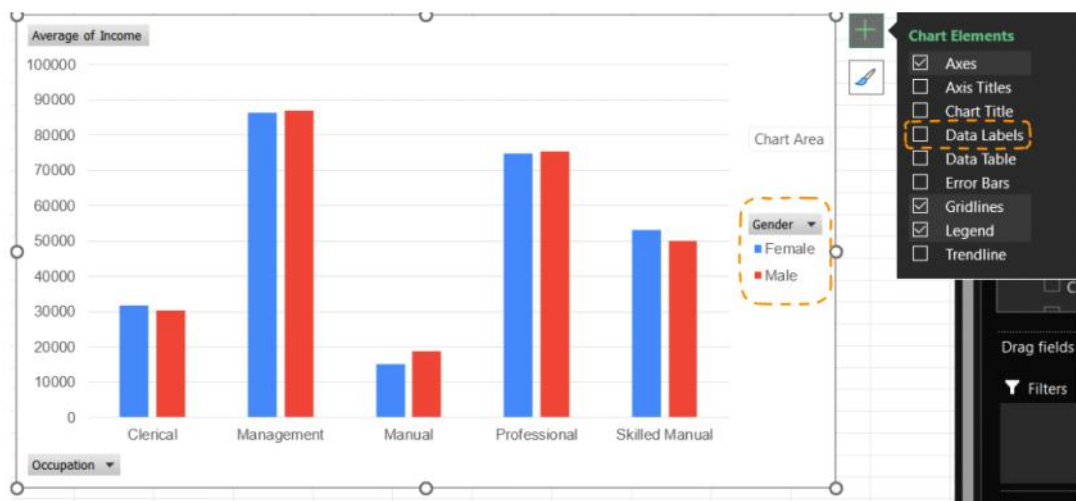
Find and Replace dialog box is open over a table with columns: Income, Children, Education, Occupation, Home Owner, Cars, Commute Distance.

Income	Children	Education	Occupation	Home Owner	Cars	Commute Distance
\$ 40,000						
\$ 30,000						
\$ 80,000						
\$ 70,000						
\$ 30,000						
\$ 10,000						
\$ 1,60,000						
\$ 40,000						
\$ 20,000						
\$ 1,20,000						
\$ 30,000						
\$ 90,000						
\$ 1,70,000						
	5	Partial College	Professional	Yes		0-1 Miles

PivotTable menu is open over a PivotTable with Row Labels: Clerical, Management, Manual, Professional, Skilled Manual, Grand Total. The menu options include: Copy, Format Cells..., Number Format..., Refresh, Delete PivotTable, Sort, Remove "Count of Income", Summarize Values By, Show Values As, Show Details, Additional Actions, Value Field Settings..., PivotTable Options..., Hide Field List.

The "Summarize Values By" sub-menu is open, showing options: Sum, Count (selected), Average, Max, Min, Product, Distinct Count, and More Options...

Refresh the data



Row Labels	Female	Male	Grand Total
Clerical	31684	30366	31073
Management	86410	86842	86647
Manual	15147	18824	16723
Professional	74762	75333	75072
Skilled Manual	53197	50150	51608
Grand Total	54581	58063	56360

