Marwadi University	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Subject: Data Visualization and Dashboard (01CT0410)	**Aim:** Conditional Formatting in Excel	
Experiment No: 03	**Date: 12-01-2024**	**Enrollment No: 92200133030**

Aim: Conditional Formatting in Excel

IDE: Excel

Theory:

Conditional formatting is a powerful feature in Microsoft Excel that allows users to apply formatting rules to cells or ranges based on specified conditions. With conditional formatting, users can visually highlight important data, identify trends, and quickly spot anomalies in their Excel spreadsheets. In this detailed guide, we will explore the various aspects of conditional formatting in Excel, including its benefits, how to apply conditional formatting rules, common use cases, and advanced techniques.

What is Conditional Formatting?

Conditional formatting is a feature in Excel that allows users to apply formatting styles, such as font color, fill color, and cell borders, based on specific conditions or criteria. These conditions can include numerical values, text strings, dates, and formula-based rules. Conditional formatting helps users to quickly interpret and analyze data by visually emphasizing certain aspects of the data set.

Benefits of Conditional Formatting:

1. Enhanced Data Visualization: Conditional formatting enables users to visualize data trends, patterns, and outliers more effectively, making it easier to interpret complex datasets.

2. Improved Data Analysis: By highlighting data that meets certain criteria or conditions, conditional formatting facilitates quick analysis and identification of important information.

3. Increased Productivity: Conditional formatting automates the process of formatting cells based on predefined rules, saving time and effort for users.

4. Customization and Flexibility: Users have the flexibility to customize conditional formatting rules according to their specific requirements, allowing for greater control over the appearance of their Excel spreadsheets.

How to Apply Conditional Formatting:

Applying conditional formatting in Excel involves the following steps:

1. Select the Data Range: First, select the range of cells to which you want to apply conditional formatting.

2. Open the Conditional Formatting Menu: Go to the "Home" tab on the Excel ribbon, then click on the "Conditional Formatting" button in the Styles group. This will open a dropdown menu with various conditional formatting options.

3. Choose a Formatting Rule: Select one of the predefined formatting rules from the dropdown menu, such as "Highlight Cells Rules" or "Top/Bottom Rules." Alternatively, you can create a custom formatting rule based on specific criteria.

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4. Set the Formatting Options: Configure the formatting options for the selected rule, such as the formatting style, color, and font settings. You can also specify the criteria or conditions that determine when the formatting should be applied.

5. Apply the Formatting Rule: Once you have set up the formatting options and criteria, click "OK" to apply the conditional formatting rule to the selected range of cells.

Common Use Cases for Conditional Formatting:

1. Highlighting Duplicate Values: Use conditional formatting to identify and highlight duplicate values within a dataset, making it easier to spot inconsistencies or errors.

2. Data Bars and Color Scales: Apply data bars or color scales to visually represent the relative values of cells within a range, allowing for quick comparison and analysis.

3. Threshold Alerts: Set up conditional formatting rules to trigger alerts or warnings when certain thresholds or limits are exceeded, such as budget targets or sales quotas.

4. Date-Based Formatting: Apply conditional formatting to date columns to highlight upcoming deadlines, important events, or overdue tasks.

5. Traffic Light Icons: Use conditional formatting to display traffic light icons (green, yellow, red) based on the values of cells, indicating performance levels or status indicators.

6. Conditional Formatting with Formulas: Create custom conditional formatting rules using Excel formulas to apply more complex formatting based on dynamic conditions.

Advanced Techniques and Tips:

1. Manage Conditional Formatting Rules: Use the "Conditional Formatting Rules Manager" to view, edit, or delete existing conditional formatting rules in your workbook.

2. Combine Multiple Rules: Apply multiple conditional formatting rules to the same range of cells to create layered effects or prioritize certain formatting rules over others.

3. Use Named Ranges: Define named ranges for your data to make it easier to apply and manage conditional formatting rules across multiple worksheets or workbooks.

4. Apply Formatting to Entire Rows or Columns: Use conditional formatting formulas that reference entire rows or columns to apply formatting dynamically as data changes.

5. Conditional Formatting with Pivot Tables: Apply conditional formatting to pivot tables to visualize trends and patterns in summarized data.

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Pre Lab Exercise:

a. What is the use of scenario manager?

b. What is the use of the Data tables option in WhatIF analysis?

c. What is the use of Goal Seek?

Tasks:

For the given dataset:

NAME	REGION	RESULT	RESULT (1,0)	TEST DATE	AGE	Fruits
Name 1	North	Negative	0	28-03-2024	18	Apple
Name 2	East	Negative	0	28-03-2024	86	Banana
Name 3	South	Positive	1	23-03-2024	20	Orange
Name 4	South	Negative	0	28-03-2024	100	Mango
Name 5	South	Negative	0	26-03-2024	90	Pineapple
Name 6	East	Positive	1	24-03-2024	68	Apple
Name 7	South	Negative	0	29-03-2024	71	Apple
Name 8	North	Negative	0	30-03-2024	24	Mango
Name 9	North	Negative	0	28-03-2024	86	Orange
Name 10	North	Negative	0	28-03-2024	56	Orange
Name 11	North	Negative	0	03-04-2024	76	Mango
Name 12	South	Negative	0	15-03-2024	70	Apple
Name 13	North	Positive	1	17-03-2024	35	Apple
Name 14	North	Negative	0	28-03-2024	53	Orange

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Perform the following tasks:

1. Format cell according to its value: Format all entries from the South region

Results:

NAME	REGION	RESULT	RESULT (1,0)	TEST DATE	AGE	Fruits
Name 1	North	Negative	0	45379	18	Apple
Name 2	East	Negative	0	45379	86	Banana
Name 3	South	Positive	1	45374	20	Orange
Name 4	South	Negative	0	45379	100	Mango
Name 5	South	Negative	0	45377	90	Pineapple
Name 6	East	Positive	1	45375	68	Apple
Name 7	South	Negative	0	45380	71	Apple
Name 8	North	Negative	0	45381	24	Mango
Name 9	North	Negative	0	45379	86	Orange
Name 10	North	Negative	0	45379	56	Orange
Name 11	North	Negative	0	45385	76	Mango
Name 12	South	Negative	0	45366	70	Apple
Name 13	North	Positive	1	45368	35	Apple
Name 14	North	Negative	0	45379	53	Orange

2. Explore preset rules (and some alternative formats): Format top 3 ages // ages above average

Results:

NAME	REGION	RESULT	RESULT (1,0)	TEST DATE	AGE	Fruits
Name 1	North	Negative	0	45379	18	Apple
Name 2	East	Negative	0	45379	86	Banana
Name 3	South	Positive	1	45374	20	Orange
Name 4	South	Negative	0	45379	100	Mango
Name 5	South	Negative	0	45377	90	Pineapple
Name 6	East	Positive	1	45375	68	Apple
Name 7	South	Negative	0	45380	71	Apple
Name 8	North	Negative	0	45381	24	Mango
Name 9	North	Negative	0	45379	86	Orange
Name 10	North	Negative	0	45379	56	Orange
Name 11	North	Negative	0	45385	76	Mango
Name 12	South	Negative	0	45366	70	Apple
Name 13	North	Positive	1	45368	35	Apple
Name 14	North	Negative	0	45379	53	Orange

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3. Implement icons and color scales: Format age with a color scale // result with icon

Results:

NAME	REGION	RESULT	RESULT (1,0)	TEST DATE	AGE	Fruits
Name 1	North	Negative	🔴	28 March 2024	18	Apple
Name 2	East	Negative	🔴	28 March 2024	86	Banana
Name 3	South	Positive	🟢	23 March 2024	20	Orange
Name 4	South	Negative	🔴	28 March 2024	100	Mango
Name 5	South	Negative	🔴	26 March 2024	90	Pineapple
Name 6	East	Positive	🟢	24 March 2024	68	Apple
Name 7	South	Negative	🔴	29 March 2024	71	Apple
Name 8	North	Negative	🔴	30 March 2024	24	Mango
Name 9	North	Negative	🔴	28 March 2024	86	Orange
Name 10	North	Negative	🔴	28 March 2024	56	Orange
Name 11	North	Negative	🔴	03 April 2024	76	Mango
Name 12	South	Negative	🔴	15 March 2024	70	Apple
Name 13	North	Positive	🟢	17 March 2024	35	Apple
Name 14	North	Negative	🔴	28 March 2024	53	Orange

4. Format cell according to another cell's value: Format name if age above 85

Results:-

NAME	REGION	RESULT	RESULT (1,0)	TEST DATE	AGE	Fruits
Name 1	North	Negative	0	45379	18	Apple
Name 2	East	Negative	0	45379	86	Banana
Name 3	South	Positive	1	45374	20	Orange
Name 4	South	Negative	0	45379	100	Mango
Name 5	South	Negative	0	45377	90	Pineapple
Name 6	East	Positive	1	45375	68	Apple
Name 7	South	Negative	0	45380	71	Apple
Name 8	North	Negative	0	45381	24	Mango
Name 9	North	Negative	0	45379	86	Orange
Name 10	North	Negative	0	45379	56	Orange
Name 11	North	Negative	0	45385	76	Mango
Name 12	South	Negative	0	45366	70	Apple
Name 13	North	Positive	1	45368	35	Apple
Name 14	North	Negative	0	45379	53	Orange

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Experiment No: 03	**Date: 12-01-2024**	**Enrollment No: 92200133030**

5. Format dates in (or outside of) a date range: Format test older than 7 days

Results:

NAME	REGION	RESULT	RESULT (1,0)	TEST DATE	AGE	Fruits
Name 1	North	Negative	0	28 March 2024	18	Apple
Name 2	East	Negative	0	28 March 2024	86	Banana
Name 3	South	Positive	1	23 March 2024	20	Orange
Name 4	South	Negative	0	28 March 2024	100	Mango
Name 5	South	Negative	0	26 March 2024	90	Pineapple
Name 6	East	Positive	1	24 March 2024	68	Apple
Name 7	South	Negative	0	29 March 2024	71	Apple
Name 8	North	Negative	0	30 March 2024	24	Mango
Name 9	North	Negative	0	28 March 2024	86	Orange
Name 10	North	Negative	0	28 March 2024	56	Orange
Name 11	North	Negative	0	03 April 2024	76	Mango
Name 12	South	Negative	0	15 March 2024	70	Apple
Name 13	North	Positive	1	17 March 2024	35	Apple
Name 14	North	Negative	0	28 March 2024	53	Orange

Observation and Result Analysis:

Write the final observation and process corresponding to each task

1. _____
2. _____
3. _____
4. _____
5. _____

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Post Lab Exercise:

You are working as an analyst at a retail company, and you have been tasked with analyzing sales data for different product categories across multiple regions. Your manager has provided you with a dataset containing sales figures for the past year, organized by product category (e.g., electronics, clothing, furniture) and region (e.g., North America, Europe, Asia).

Your objective is to use conditional formatting in Excel to visually highlight key insights and trends in the sales data, with a focus on identifying top-performing product categories and regions.

Questions:

1. Using conditional formatting, create a heat map to visualize the sales performance of different product categories across regions. Which product categories appear to have the highest sales figures, and in which regions?

Row	Month	Product Category	Region	Sales
1	Jan	Electronics	North America	8,500
2	Jan	Clothing	Europe	5,200
3	Jan	Furniture	Asia	6,800
4	Feb	Electronics	North America	12,000
5	Feb	Clothing	Europe	4,100
6	Feb	Furniture	Asia	7,500
7	Mar	Electronics	North America	9,800
8	Mar	Clothing	Europe	3,900
9	Mar	Furniture	Asia	8,200
10	Apr	Electronics	North America	10,500
11	Apr	Clothing	Europe	5,800
12	Apr	Furniture	Asia	6,200
13	May	Electronics	North America	7,200
14	May	Clothing	Europe	4,500
15	May	Furniture	Asia	9,000
16	Jun	Electronics	North America	6,500
17	Jun	Clothing	Europe	-1,200
18	Jun	Furniture	Asia	7,800
19	Jul	Electronics	North America	8,900
20	Jul	Clothing	Europe	3,200
21	Jul	Furniture	Asia	11,000
22	Aug	Electronics	North America	5,900
23	Aug	Clothing	Europe	6,100
24	Aug	Furniture	Asia	8,500
25	Sep	Electronics	North America	15,200
26	Sep	Clothing	Europe	4,800
27	Sep	Furniture	Asia	7,100
28	Oct	Electronics	North America	9,300
29	Oct	Clothing	Europe	5,500
30	Oct	Furniture	Asia	10,200
31	Nov	Electronics	North America	8,100
32	Nov	Clothing	Europe	4,200
33	Nov	Furniture	Asia	7,400
34	Dec	Electronics	North America	11,500
35	Dec	Clothing	Europe	6,000
36	Dec	Furniture	Asia	8,700
37	Jan	Electronics	North America	7,800
38	Jan	Clothing	Europe	3,500
39	Jan	Furniture	Asia	6,500
40	Feb	Electronics	North America	9,200

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Experiment No: 03	**Date: 12-01-2024**	**Enrollment No: 92200133030**

2. Apply conditional formatting to identify outliers in the sales data. Are there any product categories or regions with unusually low or high sales figures compared to the rest of the dataset?

Row	Month	Product Category	Region	Sales
1	Jan	Electronics	North America	8,500
2	Jan	Clothing	Europe	5,200
3	Jan	Furniture	Asia	6,800
4	Feb	Electronics	North America	12,000
5	Feb	Clothing	Europe	4,100
6	Feb	Furniture	Asia	7,500
7	Mar	Electronics	North America	9,800
8	Mar	Clothing	Europe	3,900
9	Mar	Furniture	Asia	8,200
10	Apr	Electronics	North America	10,500
11	Apr	Clothing	Europe	5,800
12	Apr	Furniture	Asia	6,200
13	May	Electronics	North America	7,200
14	May	Clothing	Europe	4,500
15	May	Furniture	Asia	9,000
16	Jun	Electronics	North America	6,500
17	Jun	Clothing	Europe	-1,200
18	Jun	Furniture	Asia	7,800
19	Jul	Electronics	North America	8,900
20	Jul	Clothing	Europe	3,200
21	Jul	Furniture	Asia	11,000
22	Aug	Electronics	North America	5,900
23	Aug	Clothing	Europe	6,100
24	Aug	Furniture	Asia	8,500
25	Sep	Electronics	North America	15,200
26	Sep	Clothing	Europe	4,800
27	Sep	Furniture	Asia	7,100
28	Oct	Electronics	North America	9,300
29	Oct	Clothing	Europe	5,500
30	Oct	Furniture	Asia	10,200
31	Nov	Electronics	North America	8,100
32	Nov	Clothing	Europe	4,200
33	Nov	Furniture	Asia	7,400
34	Dec	Electronics	North America	11,500
35	Dec	Clothing	Europe	6,000
36	Dec	Furniture	Asia	8,700
37	Jan	Electronics	North America	7,800
38	Jan	Clothing	Europe	3,500
39	Jan	Furniture	Asia	6,500
40	Feb	Electronics	North America	9,200

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3. Create a conditional formatting rule to highlight cells with sales figures that exceed a certain threshold (e.g., $10,000). How many cells meet this condition, and which product categories and regions do they belong to?

Row	Month	Category	Region	Sales
1	Jan	Electronics	North America	8,500
2	Jan	Clothing	Europe	5,200
3	Jan	Furniture	Asia	6,800
4	Feb	Electronics	North America	12,000
5	Feb	Clothing	Europe	4,100
6	Feb	Furniture	Asia	7,500
7	Mar	Electronics	North America	9,800
8	Mar	Clothing	Europe	3,900
9	Mar	Furniture	Asia	8,200
10	Apr	Electronics	North America	10000
11	Apr	Clothing	Europe	5,800
12	Apr	Furniture	Asia	6,200
13	May	Electronics	North America	7,200
14	May	Clothing	Europe	4,500
15	May	Furniture	Asia	9,000
16	Jun	Electronics	North America	6,500
17	Jun	Clothing	Europe	-1,200
18	Jun	Furniture	Asia	7,800
19	Jul	Electronics	North America	8,900
20	Jul	Clothing	Europe	3,200
21	Jul	Furniture	Asia	11,000
22	Aug	Electronics	North America	5,900
23	Aug	Clothing	Europe	6,100
24	Aug	Furniture	Asia	8,500
25	Sep	Electronics	North America	15,200
26	Sep	Clothing	Europe	4,800
27	Sep	Furniture	Asia	7,100
28	Oct	Electronics	North America	9,300
29	Oct	Clothing	Europe	5,500
30	Oct	Furniture	Asia	10,200
31	Nov	Electronics	North America	8,100
32	Nov	Clothing	Europe	4,200
33	Nov	Furniture	Asia	7,400
34	Dec	Electronics	North America	11,500
35	Dec	Clothing	Europe	6,000
36	Dec	Furniture	Asia	8,700
37	Jan	Electronics	North America	7,800
38	Jan	Clothing	Europe	3,500
39	Jan	Furniture	Asia	6,500
40	Feb	Electronics	North America	9,200

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Experiment No: 03	**Date: 12-01-2024**	**Enrollment No: 92200133030**

4. Use conditional formatting to highlight cells with negative sales figures, indicating a loss. How many such cells are there, and which product categories and regions are affected?

Row	Month	Product Category	Region	Sales
1	Jan	Electronics	North America	8,500
2	Jan	Clothing	Europe	5,200
3	Jan	Furniture	Asia	6,800
4	Feb	Electronics	North America	12,000
5	Feb	Clothing	Europe	4,100
6	Feb	Furniture	Asia	7,500
7	Mar	Electronics	North America	9,800
8	Mar	Clothing	Europe	3,900
9	Mar	Furniture	Asia	8,200
10	Apr	Electronics	North America	10,500
11	Apr	Clothing	Europe	5,800
12	Apr	Furniture	Asia	6,200
13	May	Electronics	North America	7,200
14	May	Clothing	Europe	4,500
15	May	Furniture	Asia	9,000
16	Jun	Electronics	North America	6,500
17	Jun	Clothing	Europe	-1,200
18	Jun	Furniture	Asia	7,800
19	Jul	Electronics	North America	8,900
20	Jul	Clothing	Europe	3,200
21	Jul	Furniture	Asia	11,000
22	Aug	Electronics	North America	5,900
23	Aug	Clothing	Europe	6,100
24	Aug	Furniture	Asia	8,500
25	Sep	Electronics	North America	15,200
26	Sep	Clothing	Europe	4,800
27	Sep	Furniture	Asia	7,100
28	Oct	Electronics	North America	9,300
29	Oct	Clothing	Europe	5,500
30	Oct	Furniture	Asia	10,200
31	Nov	Electronics	North America	8,100
32	Nov	Clothing	Europe	4,200
33	Nov	Furniture	Asia	7,400
34	Dec	Electronics	North America	11,500
35	Dec	Clothing	Europe	6,000
36	Dec	Furniture	Asia	8,700
37	Jan	Electronics	North America	7,800
38	Jan	Clothing	Europe	3,500
39	Jan	Furniture	Asia	6,500
40	Feb	Electronics	North America	9,200

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5. Apply color scales to visualize the distribution of sales figures within each product category. Do you observe any patterns or trends in the sales data based on the color scales?

Row	Month	Product Category	Region	Sales
2	Jan	Clothing	Europe	5,200
5	Feb	Clothing	Europe	4,100
8	Mar	Clothing	Europe	3,900
11	Apr	Clothing	Europe	5,800
14	May	Clothing	Europe	4,500
17	Jun	Clothing	Europe	-1,200
20	Jul	Clothing	Europe	3,200
23	Aug	Clothing	Europe	6,100
26	Sep	Clothing	Europe	4,800
29	Oct	Clothing	Europe	5,500
32	Nov	Clothing	Europe	4,200
35	Dec	Clothing	Europe	6,000
38	Jan	Clothing	Europe	3,500
1	Jan	Electronics	North America	8,500
4	Feb	Electronics	North America	12,000
7	Mar	Electronics	North America	9,800
10	Apr	Electronics	North America	10,500
13	May	Electronics	North America	7,200
16	Jun	Electronics	North America	6,500
19	Jul	Electronics	North America	8,900
22	Aug	Electronics	North America	5,900
25	Sep	Electronics	North America	15,200
28	Oct	Electronics	North America	9,300
31	Nov	Electronics	North America	8,100
34	Dec	Electronics	North America	11,500
37	Jan	Electronics	North America	7,800
40	Feb	Electronics	North America	9,200
3	Jan	Furniture	Asia	6,800
6	Feb	Furniture	Asia	7,500
9	Mar	Furniture	Asia	8,200
12	Apr	Furniture	Asia	6,200
15	May	Furniture	Asia	9,000
18	Jun	Furniture	Asia	7,800
21	Jul	Furniture	Asia	11,000
24	Aug	Furniture	Asia	8,500
27	Sep	Furniture	Asia	7,100
30	Oct	Furniture	Asia	10,200
33	Nov	Furniture	Asia	7,400
36	Dec	Furniture	Asia	8,700
39	Jan	Furniture	Asia	6,500

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6. Implement conditional formatting rules to identify cells with consecutive months of declining sales. How many instances of declining sales are there, and which product categories and regions are affected the most?

Row	Month	Product Category	Region	Sales
2	Jan	Clothing	Europe	5,200
5	Feb	Clothing	Europe	4,100
8	Mar	Clothing	Europe	3,900
11	Apr	Clothing	Europe	5,800
14	May	Clothing	Europe	4,500
17	Jun	Clothing	Europe	-1,200
20	Jul	Clothing	Europe	3,200
23	Aug	Clothing	Europe	6,100
26	Sep	Clothing	Europe	4,800
29	Oct	Clothing	Europe	5,500
32	Nov	Clothing	Europe	4,200
35	Dec	Clothing	Europe	6,000
38	Jan	Clothing	Europe	3,500
1	Jan	Electronics	North America	8,500
4	Feb	Electronics	North America	12,000
7	Mar	Electronics	North America	9,800
10	Apr	Electronics	North America	10,500
13	May	Electronics	North America	7,200
16	Jun	Electronics	North America	6,500
19	Jul	Electronics	North America	8,900
22	Aug	Electronics	North America	5,900
25	Sep	Electronics	North America	15,200
28	Oct	Electronics	North America	9,300
31	Nov	Electronics	North America	8,100
34	Dec	Electronics	North America	11,500
37	Jan	Electronics	North America	7,800
40	Feb	Electronics	North America	9,200
3	Jan	Furniture	Asia	6,800
6	Feb	Furniture	Asia	7,500
9	Mar	Furniture	Asia	8,200
12	Apr	Furniture	Asia	6,200
15	May	Furniture	Asia	9,000
18	Jun	Furniture	Asia	7,800
21	Jul	Furniture	Asia	11,000
24	Aug	Furniture	Asia	8,500
27	Sep	Furniture	Asia	7,100
30	Oct	Furniture	Asia	10,200
33	Nov	Furniture	Asia	7,400
36	Dec	Furniture	Asia	8,700
39	Jan	Furniture	Asia	6,500

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Experiment No: 03	**Date: 12-01-2024**	**Enrollment No: 92200133030**

7. Create a conditional formatting rule to highlight cells with significant month-over-month increases in sales (e.g., exceeding 20%). How many such instances are there, and which product categories and regions show the most growth?

Row	Month	Product Category	Region	Sales
1	Jan	Electronics	North America	8,500
2	Jan	Clothing	Europe	5,200
3	Jan	Furniture	Asia	6800
4	Feb	Electronics	North America	12,000
5	Feb	Clothing	Europe	4,100
6	Feb	Furniture	Asia	7500
7	Mar	Electronics	North America	9,800
8	Mar	Clothing	Europe	3,900
9	Mar	Furniture	Asia	8200
10	Apr	Electronics	North America	10,500
11	Apr	Clothing	Europe	5,800
12	Apr	Furniture	Asia	6,200
13	May	Electronics	North America	7,200
14	May	Clothing	Europe	4,500
15	May	Furniture	Asia	9000
16	Jun	Electronics	North America	6,500
17	Jun	Clothing	Europe	-1,200
18	Jun	Furniture	Asia	7,800
19	Jul	Electronics	North America	8,900
20	Jul	Clothing	Europe	3,200
21	Jul	Furniture	Asia	11000
22	Aug	Electronics	North America	5,900
23	Aug	Clothing	Europe	6,100
24	Aug	Furniture	Asia	8500
25	Sep	Electronics	North America	15,200
26	Sep	Clothing	Europe	4,800
27	Sep	Furniture	Asia	7100
28	Oct	Electronics	North America	9,300
29	Oct	Clothing	Europe	5,500
30	Oct	Furniture	Asia	10200
31	Nov	Electronics	North America	8,100
32	Nov	Clothing	Europe	4,200
33	Nov	Furniture	Asia	7400
34	Dec	Electronics	North America	11,500
35	Dec	Clothing	Europe	6,000
36	Dec	Furniture	Asia	8700
37	Jan	Electronics	North America	7,800
38	Jan	Clothing	Europe	3,500
39	Jan	Furniture	Asia	6500
40	Feb	Electronics	North America	9,200

Marwadi University	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Subject: Data Visualization and Dashboard (01CT0410)	**Aim:** Conditional Formatting in Excel	
Experiment No: 03	**Date: 12-01-2024**	**Enrollment No: 92200133030**

8. Combine conditional formatting rules to create a multi-layered visualization of the sales data, incorporating color scales, data bars, and icon sets. How does this comprehensive visualization enhance your understanding of the sales performance across different categories and regions?

Row	Month	Product Category	Region	Sales
1	Jan	Electronics	North America	8,500
2	Jan	Clothing	Europe	5,200
3	Jan	Furniture	Asia	6,800
4	Feb	Electronics	North America	12,000
5	Feb	Clothing	Europe	4,100
6	Feb	Furniture	Asia	7,500
7	Mar	Electronics	North America	9,800
8	Mar	Clothing	Europe	3,900
9	Mar	Furniture	Asia	8,200
10	Apr	Electronics	North America	10,500
11	Apr	Clothing	Europe	5,800
12	Apr	Furniture	Asia	6,200
13	May	Electronics	North America	7,200
14	May	Clothing	Europe	4,500
15	May	Furniture	Asia	9,000
16	Jun	Electronics	North America	6,500
17	Jun	Clothing	Europe	-1,200
18	Jun	Furniture	Asia	7,800
19	Jul	Electronics	North America	8,900
20	Jul	Clothing	Europe	3,200
21	Jul	Furniture	Asia	11,000
22	Aug	Electronics	North America	5,900
23	Aug	Clothing	Europe	6,100
24	Aug	Furniture	Asia	8,500
25	Sep	Electronics	North America	15,200
26	Sep	Clothing	Europe	4,800
27	Sep	Furniture	Asia	7,100
28	Oct	Electronics	North America	9,300
29	Oct	Clothing	Europe	5,500
30	Oct	Furniture	Asia	10,200
31	Nov	Electronics	North America	8,100
32	Nov	Clothing	Europe	4,200
33	Nov	Furniture	Asia	7,400
34	Dec	Electronics	North America	11,500
35	Dec	Clothing	Europe	6,000
36	Dec	Furniture	Asia	8,700
37	Jan	Electronics	North America	7,800
38	Jan	Clothing	Europe	3,500
39	Jan	Furniture	Asia	6,500
40	Feb	Electronics	North America	9,200

Marwadi University	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Subject: Data Visualization and Dashboard (01CT0410)	**Aim:** Conditional Formatting in Excel	
Experiment No: 03	**Date: 12-01-2024**	**Enrollment No: 92200133030**

9. Apply conditional formatting to highlight cells containing sales figures that fall within specific percentile ranges (e.g., top 10%, bottom 25%). Which product categories and regions fall into these percentile ranges, and what insights can be gleaned from this analysis?

Row	Month	Product Category	Region	Sales
1	Jan	Electronics	North America	8,500
2	Jan	Clothing	Europe	5,200
3	Jan	Furniture	Asia	6,800
4	Feb	Electronics	North America	12,000
5	Feb	Clothing	Europe	4,100
6	Feb	Furniture	Asia	7,500
7	Mar	Electronics	North America	9,800
8	Mar	Clothing	Europe	3,900
9	Mar	Furniture	Asia	8,200
10	Apr	Electronics	North America	10,500
11	Apr	Clothing	Europe	5,800
12	Apr	Furniture	Asia	6,200
13	May	Electronics	North America	7,200
14	May	Clothing	Europe	4,500
15	May	Furniture	Asia	9,000
16	Jun	Electronics	North America	6,500
17	Jun	Clothing	Europe	-1,200
18	Jun	Furniture	Asia	7,800
19	Jul	Electronics	North America	8,900
20	Jul	Clothing	Europe	3,200
21	Jul	Furniture	Asia	11,000
22	Aug	Electronics	North America	5,900
23	Aug	Clothing	Europe	6,100
24	Aug	Furniture	Asia	8,500
25	Sep	Electronics	North America	15,200
26	Sep	Clothing	Europe	4,800
27	Sep	Furniture	Asia	7,100
28	Oct	Electronics	North America	9,300
29	Oct	Clothing	Europe	5,500
30	Oct	Furniture	Asia	10,200
31	Nov	Electronics	North America	8,100
32	Nov	Clothing	Europe	4,200
33	Nov	Furniture	Asia	7,400
34	Dec	Electronics	North America	11,500
35	Dec	Clothing	Europe	6,000
36	Dec	Furniture	Asia	8,700
37	Jan	Electronics	North America	7,800
38	Jan	Clothing	Europe	3,500
39	Jan	Furniture	Asia	6,500
40	Feb	Electronics	North America	9,200

Marwadi University	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Subject: Data Visualization and Dashboard (01CT0410)	**Aim:** Conditional Formatting in Excel	
Experiment No: 03	**Date: 12-01-2024**	**Enrollment No: 92200133030**

10. Finally, based on your analysis using conditional formatting, provide recommendations to the management team regarding potential areas for improvement or further exploration, such as focusing on high-growth product categories or implementing targeted marketing strategies in underperforming regions.

- The first thing I should say is that they need to address the very low sales of cloths as it consistently low and in loss in a case also the sales in North America are very high, they are having high demand of the electronics. Aisa seems to doing good in terms of furniture but is behind the NA in electronics. The top performing product category is electronics

	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Subject: Data Visualization and Dashboard (01CT0410)	**Aim:** Conditional Formatting in Excel	
Experiment No: 03	**Date: 12-01-2024**	**Enrollment No: 92200133030**