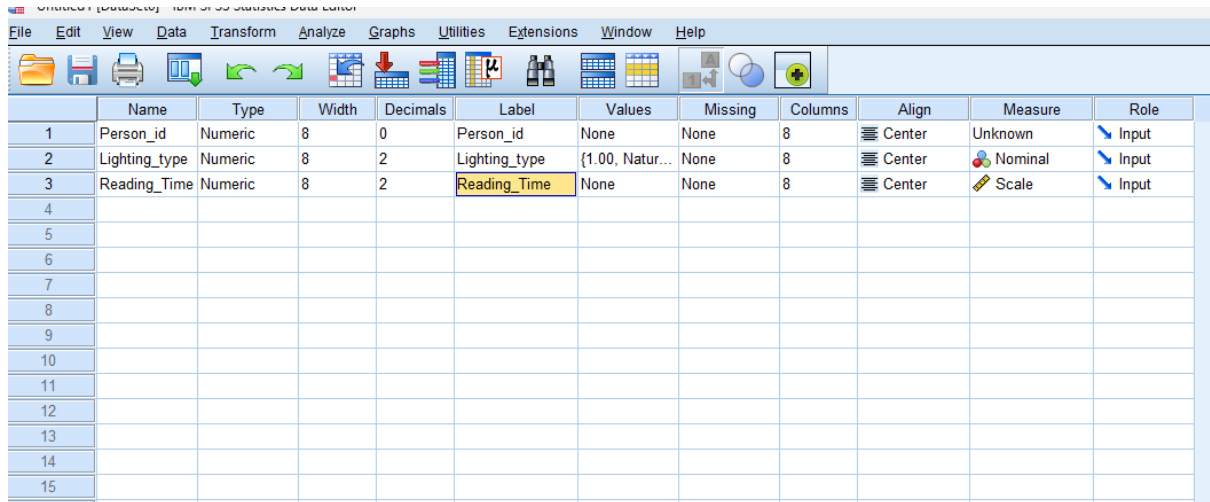


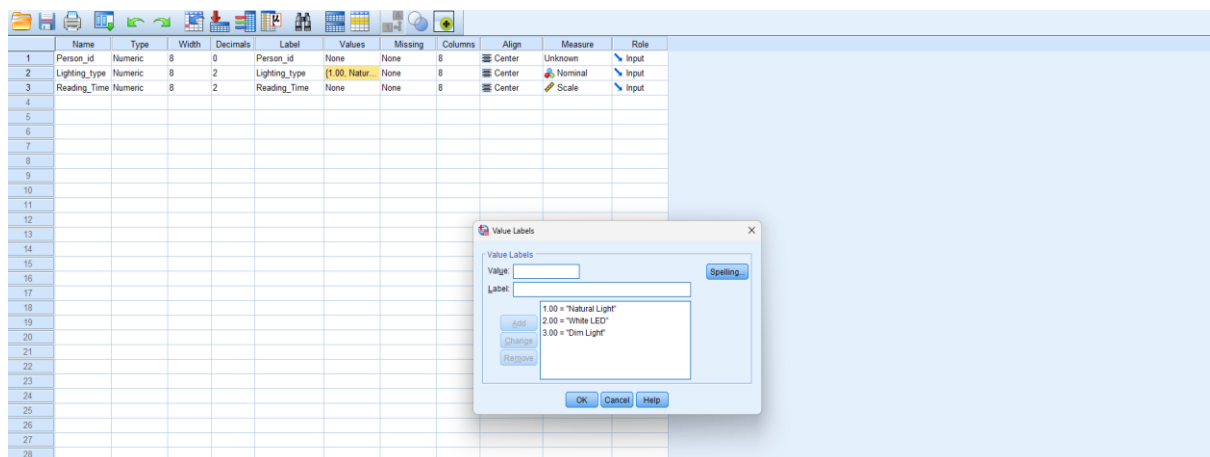
Name: Belhekar Suyash Bhausaheb

PART A:

Step 1: Create Variable in Spss-



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Person_id	Numeric	8	0	Person_id	None	None	8	Center	Unknown	Input
2	Lighting_type	Numeric	8	2	Lighting_type	{1.00, Natur...	None	8	Center	Nominal	Input
3	Reading_Time	Numeric	8	2	Reading_Time	None	None	8	Center	Scale	Input
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Person_id	Numeric	8	0	Person_id	None	None	8	Center	Unknown	Input
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3	Reading_Time	Numeric	8	2	Reading_Time	None	None	8	Center	Scale	Input
4											
5											
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Value Labels

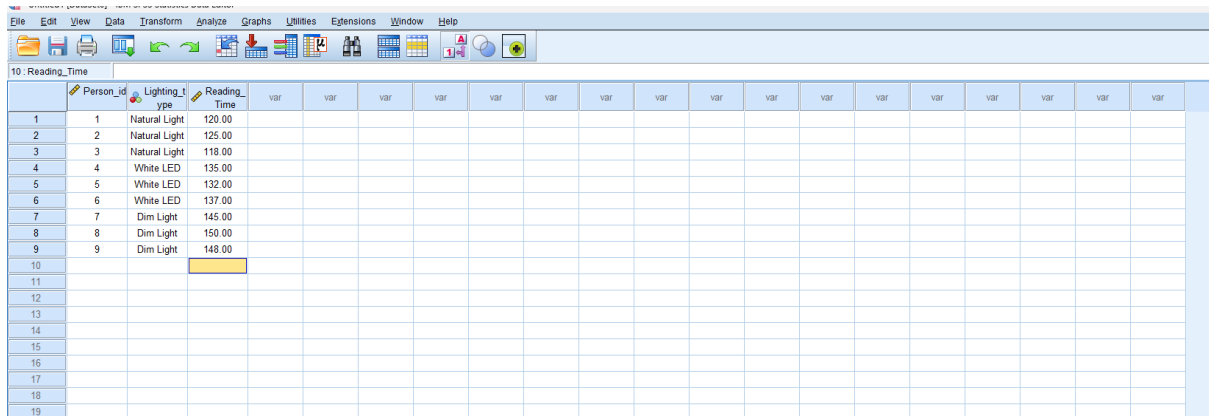
Value:

Label:

1.00 = "Natural Light"
2.00 = "White LED"
3.00 = "Dim Light"

OK Cancel Help

Step 2: Enter the data-



	Person_id	Lighting_type	Reading_Time	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	1	Natural Light	120.00																
2	2	Natural Light	125.00																
3	3	Natural Light	118.00																
4	4	White LED	135.00																
5	5	White LED	132.00																
6	6	White LED	137.00																
7	7	Dim Light	145.00																
8	8	Dim Light	150.00																
9	9	Dim Light	148.00																
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			

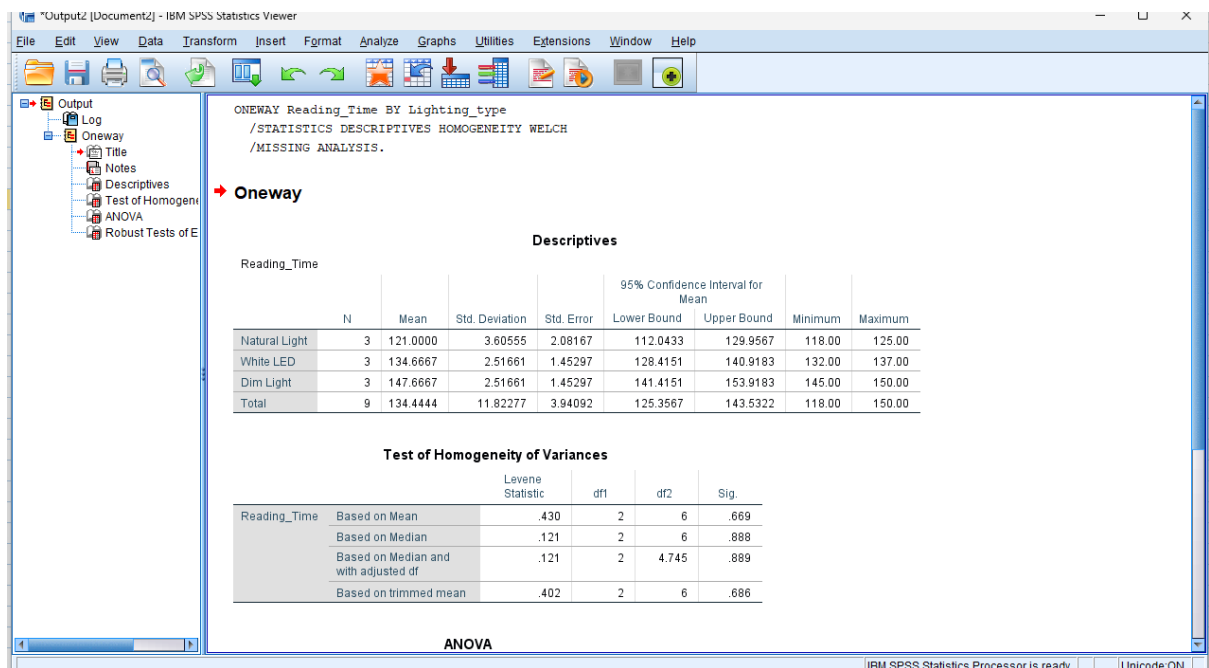
Step 3: Analyzing data using One way Anova

Go to Analyze->Compare Means->One Way Anova

Move reading Time to Dependent list

Move Lighting Type to Factor

Click Ok



ONEWAY Reading_Time BY Lighting_type
/STATISTICS DESCRIPTIVES HOMOGENEITY WELCH
/MISSING ANALYSIS.

→ **Oneway**

Descriptives

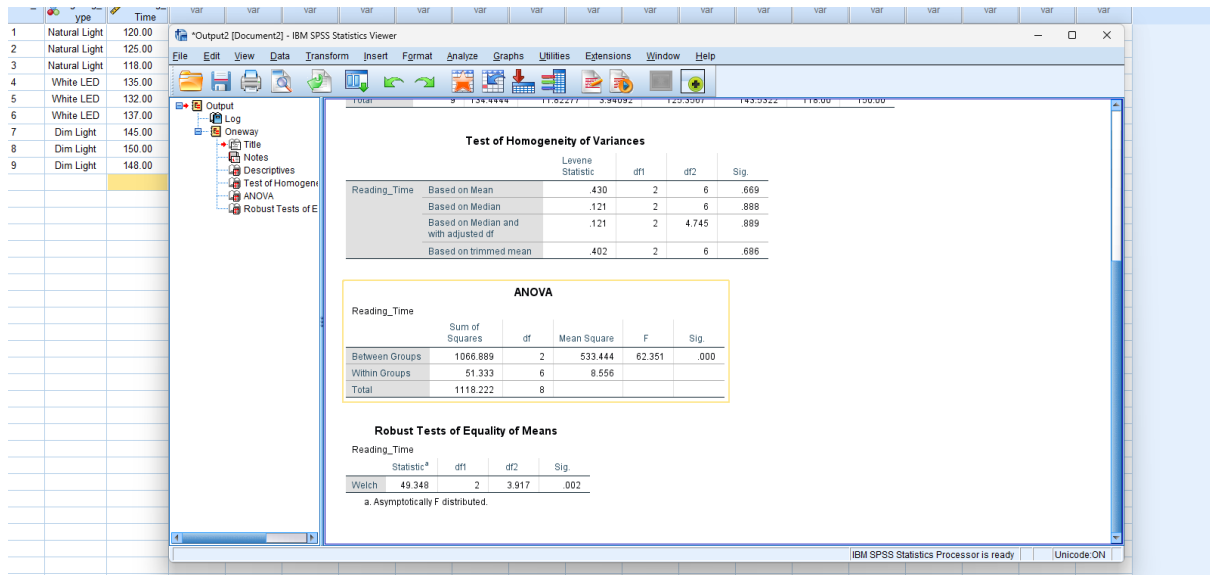
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Reading_Time	Natural Light	3	121.0000	3.60555	2.08167	112.0433	129.9567	118.00	125.00
	White LED	3	134.6667	2.51661	1.45297	128.4151	140.9183	132.00	137.00
	Dim Light	3	147.6667	2.51661	1.45297	141.4151	153.9183	145.00	150.00
	Total	9	134.4444	11.82277	3.94092	125.3567	143.5322	118.00	150.00

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Reading_Time	Based on Mean	.430	2	6	.669
	Based on Median	.121	2	6	.888
	Based on Median and with adjusted df	.121	2	4.745	.889
	Based on trimmed mean	.402	2	6	.686

ANOVA

IBM SPSS Statistics Processor is ready | Unicode: ON



Step 4: Final Conclusion:

Natural Light allows fastest reading

Dim Light slows reading the most

White LED is in between

Result is statistically significant → Lighting type impacts reading performance

Step 5: Bar Chart Visualization

1. Click Graphs → Chart Builder
2. Select Bar Chart
3. Drag Lighting_Type to x-axis and Reading_Time to y-axis
4. Click OK to generate chart

Shorter bars = faster reading time.

