# Variable Measurement Scale?

4 Different types of measured variables.

1 Nominal 2 Ordinal 3 Interval 4 Ratio

1 Nominal data {Categorical data} – Classes

E.g.,

Colours, Gender, Type

2 Ordinal data

Order of data matters, Value doesn’t’,

5 Students Marks Rank

100 1

96 2

57 4 Ordinal Data

85 3

44 5

3 Interval -> order matters, values also matter, natural Zero is not present.

Temperatures – Fahrenheits – 70-80; 80-90; 90-100

Here “0” has no sense.

4 Ratio data (Assignment)

Frequency Distribution.

Sample dataset –

{Rose, Lilly, Sunflower, Rose, Lilly, Sunflower, Rose, Lilly, Lilly}

Show case above data in visualize manner in frequency distribution.

Flower Frequency Cumulative Frequency

Rose 3 3

Lilly 4 7

Sunflower 2 9

Bar Chart, Pie Charts good for data visualization.

If variable is discrete – Bar Chart

If variable is continuous – Histogram.

1 Bar Graphs

3

2

1

Rose Lilly Sunflower

2 Histogram – Continuous

Ages {10,12,14,18,24,26,30,35,36,37,40,41,42,43,50,51}

Bins, Group – 10 {Normally in group size is 10}

5

4 Kernal Density Estimator

3

2

1

10 20 30 40 50 60 70 80 90

What is PDF – Smoothing of histogram

BAR Vs Histogram

Discrete Histogram continuous

Pdf: Probability density function.