
Notes 10.2 – Statistics and Data - Graphically

I. Variables

A.) Def: characteristics of individuals being identified or measured.

1.) CATEGORICAL – Class

2.) QUANTITATIVE – Number

We can use number to help interpret categorical data
i.e., %

B.) Visually, categorical data can be represented by barcharts, circle graphs, or pie charts. Page 692 of your text has good examples.

Quantitative data can be represented visually several different ways

II. Stem-and-Leaf Plots

A.) A graphical display of quantitative data consisting of a stem (initial digit(s)) and a leaf (final digit).

B.) Ex. 1 – Create a stem-and-leaf plot for the following set of test scores.

61, 64, 70, 71, 72, 72, 72, 75, 75, 77, 80, 81, 84, 88, 90,
91, 91, 95, 98

6		2,4
7		0,1,2,2,2,5,5,7
8		0,1,4,8
9		0,1,1,5,8

C.) Split Stem-and-Leaf Plots- We can further break the data down by “splitting” the stems.

The following is a split stem-and-leaf plot for the same data.

6	2,4
6	
7	0,1,2,2,2
7	5,5,7
8	0,1,4
8	8
9	0,1,1
9	5,8

D.) Back-to-Back Stem-and-Leaf Plots- Used to compare two sets of data.

Mods 1-2		Mods 11-12
8,7,9	6	2,4
8,6,1,0	7	0,1,2,2,2,5,5,7
8,7,3,3,2,0	8	0,1,4,8
9,9,4,5,5,2	9	0,1,1,5,8

III. Frequency Table and Distribution

A.) A way to organize and classify data.

B.) Ex. 2- Make a frequency distribution for our first set of test scores.

Grade	Frequency
60-69	2
70-79	8
80-89	4
90-99	5

IV. Histograms

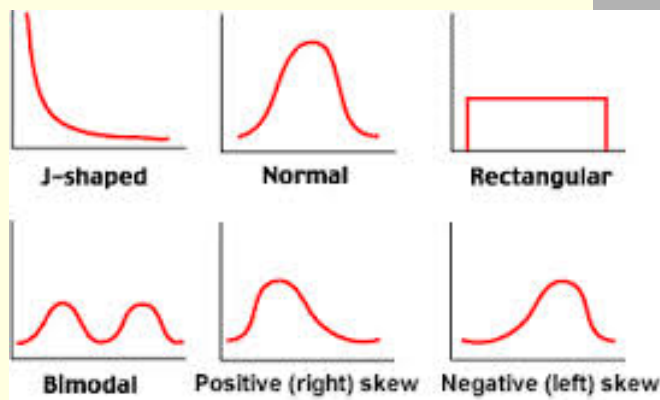
A.) A “bar chart” for quantitative data. Both axes have a numerical scale, and there is no space between the rectangles.

B.) See Calc. example

V. Shape

A.) Symmetric : nearly the mirror images when the distribution is reflected over the vertical line through the median.

B.) Skewed Right/Left : The distribution has a longer “tail” to the right/left.



VI. Time Plots

A.) A plot of data where time is the independent variable. The points in the plot are then connected by straight lines.