Characterizing Data Visually

In MINITAB characterizing data visually is very easy, and can be done in a number of ways.

The following is a data set of the lengths (cm) of 223 Clovis points: Obviously we wouldn’t want to try and characterize this data set visually by hand.

In MINITAB follow these procedures:

```
>STAT
>EDA
>STEM AND LEAF
```

This gives you a stem and leaf plot in your SESSION window as follows
Stem-and-leaf of Length  N = 223
Leaf Unit = 10

| 0 | 01 |
| 29 | 0 222223333333333333333333333 |
| 107 | 0 |
| 4444444444444444444444444444444444444445555555555555555555555555555555555+ |
| (48) | 0 66666666666666666666666666677777777777777777777777777777777777777777777 |
| 68 | 0 888888888999999999999999999999 |
| 41 | 1 00000000001111111111 |
| 23 | 1 223333 |
| 17 | 1 4444555 |
| 10 | 1 66 |
| 8 | 1 889 |
| 5 | 2 01 |
| 3 | 2 233 |

There are three ways of getting boxplots, either through the >STAT>EDA path as above (double click your data column into the Y1 cell) or

```plaintext
>GRAPH
>BOXPLOT
>Double click your data column into the Y1 cell (the same window as the EDA path)
>OK
```

And you get

There are various ways of getting histograms too, one way is
>GRAPH
>HISTOGRAM
  > Double click your data column into the X1 cell
  >OK

And this gets

![Histogram Graph](image)

These are your basic data visuals, though notice MINITAB gives you many available options for customizing these visuals, so try them out yourselves.

**More on Boxplots**
These are extremely useful and used commonly to characterize data sets.

![Boxplot Diagram](image)

Where $Q_x$ is the quartile (see descriptive data section). The body of the box represents the main body of the data (quartiles 2 and 3) and the centerline is the MEDIAN, not the mean. The mean can be superimposed using one of the options dialog boxes.