

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.

| | | | | | | | |
|--------|--------|-------|------|--------|--------|--------|--------|
| 78 | 84.6 | 52.8 | 54.2 | 44 | 109.54 | 63.1 | 33.8 |
| 68 | 107 | 58.6 | 48.2 | 45 | 110.18 | 63.1 | 75.13 |
| 57 | 91.5 | 55.8 | 55 | 40 | 105.82 | 94.5 | 27.94 |
| 94.68 | 109 | 50 | 57 | 32 | 77.69 | 64.7 | 47.45 |
| 80.92 | 119.8 | 57.3 | 40 | 30 | 71.78 | 56.5 | 64.58 |
| 68 | 105.3 | 50.7 | 40.5 | 50 | 56.69 | 68.7 | 37.07 |
| 117.24 | 99.2 | 46.6 | 46 | 63 | 83.1 | 153.65 | 110.96 |
| 57.81 | 97.6 | 49.2 | 36 | 70 | 68.42 | 147.83 | 72.14 |
| 67.66 | 72.7 | 47.3 | 46.5 | 70 | 74.83 | 192.9 | 33.8 |
| 71.58 | 77.8 | 55.2 | 36.5 | 56 | 57.07 | 141 | 57.05 |
| 96.3 | 68 | 52.8 | 43 | 37 | 49.77 | 221.07 | 74.71 |
| 94.77 | 44.4 | 55 | 34 | 3 | 41.83 | 230.49 | 26.56 |
| 96.35 | 65.5 | 46.7 | 40 | 45 | 182 | 167.61 | 43.78 |
| 74.04 | 61.9 | 101 | 33 | 45 | 182 | 144.33 | 110.7 |
| 51.15 | 76.8 | 30.2 | 47 | 39 | 159 | 95.75 | 97 |
| 61.86 | 80.6 | 48.9 | 54.5 | 65 | 94 | 216.5 | 90 |
| 77.81 | 75.9 | 42 | 44 | 44 | 96 | 209 | 98.9 |
| 30.6 | 80.2 | 43.75 | 47 | 41 | 132 | 234 | 59.1 |
| 35.27 | 108.5 | 62.7 | 59 | 50 | 91 | 137.7 | 51.8 |
| 46.59 | 47.1 | 63.8 | 48.6 | 35 | 45 | 57.06 | 58.2 |
| 55.51 | 69.6 | 89.1 | 60 | 165 | 78 | 104.55 | 54.4 |
| 82.67 | 70 | 58.8 | 78.9 | 143.93 | 78 | 51.89 | 44.7 |
| 86.7 | 125 | 56 | 84.2 | 150.79 | 25 | 37.64 | 49.2 |
| 112.7 | 65.7 | 64.4 | 64 | 129 | 19 | 130.35 | 51.8 |
| 114.8 | 54 | 40.3 | 55.7 | 96.06 | 109 | 64.09 | 68.9 |
| 74 | 55 | 65.8 | 72.4 | 89.36 | 73 | 44.73 | 28 |
| 26 | 133.92 | 51 | 33 | 90.99 | 55 | 44.98 | 38.66 |
| 31.78 | 113.94 | 33.6 | 29 | 116.91 | 39.7 | 47.29 | |

In MINITAB follow these procedures:

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

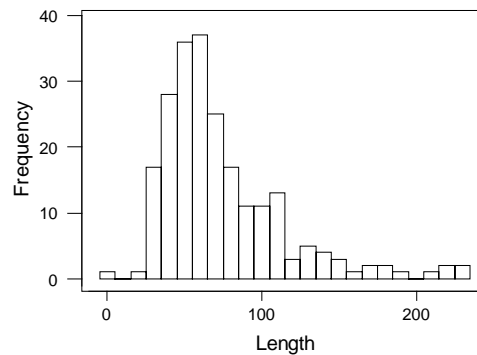
This gives you a stem and leaf plot in your SESSION window as follows


```

>GRAPH
  >HISTOGRAM
    > Double click your data column into the X1 cell
    >OK

```

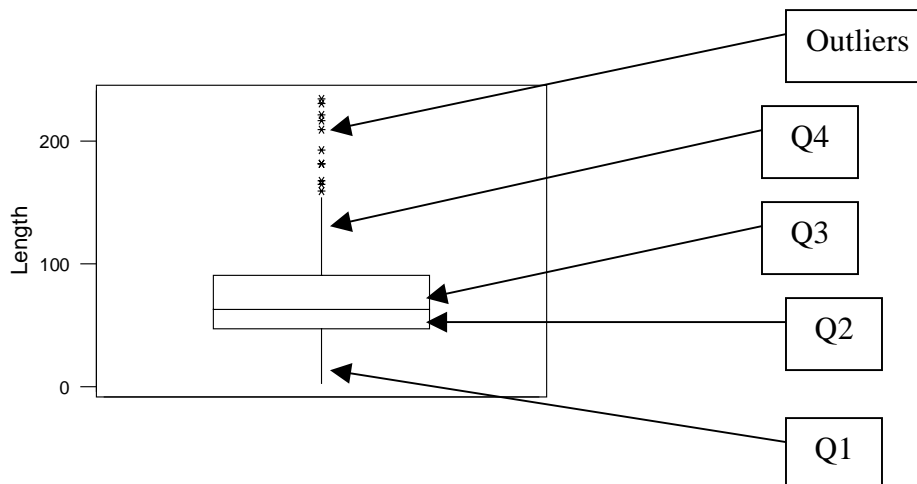
And this gets



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.



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.