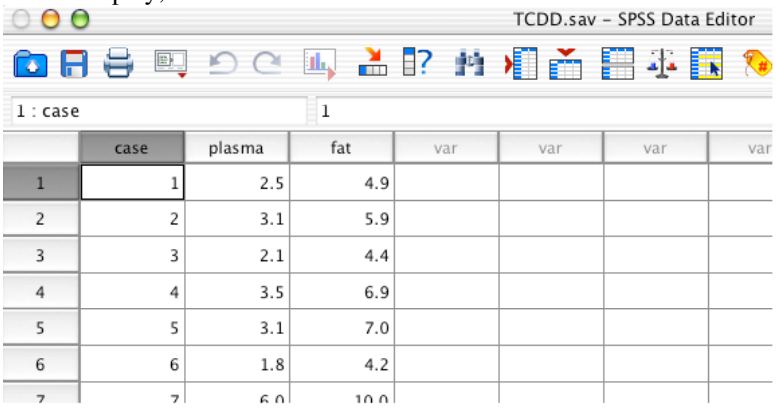
SPSS Information Sheet 4
Stem and Leaf Displays

When we have a data set with a variable that has numerical values, we may wish to make a stem and leaf display of the data from that variable in order to explore the shape of the data — center, spread, skew, gaps, unusually high or low values, etc. SPSS will not really makes stem and leaf displays easily.

We will use the data from Problem 2.16 which gives parts per trillion of dioxin (2,3,7,8-TCDD) in blood and fat tissue for 20 Massachusetts Vietnam war veterans, gotten as a result of exposure to Agent Orange.

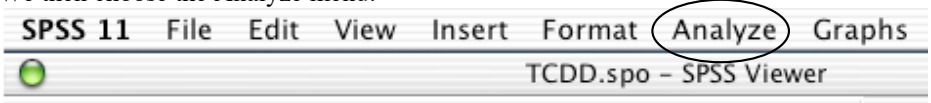
Stem and Leaf Display

To make a stem and leaf display, we first enter the data as described in other handouts:

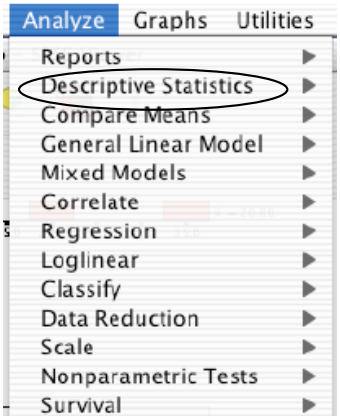


	case	plasma	fat	var	var	var	var
1	1	2.5	4.9				
2	2	3.1	5.9				
3	3	2.1	4.4				
4	4	3.5	6.9				
5	5	3.1	7.0				
6	6	1.8	4.2				
7	7	6.0	10.0				

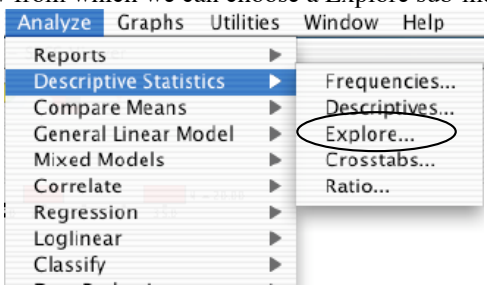
We then choose the Analyze menu:



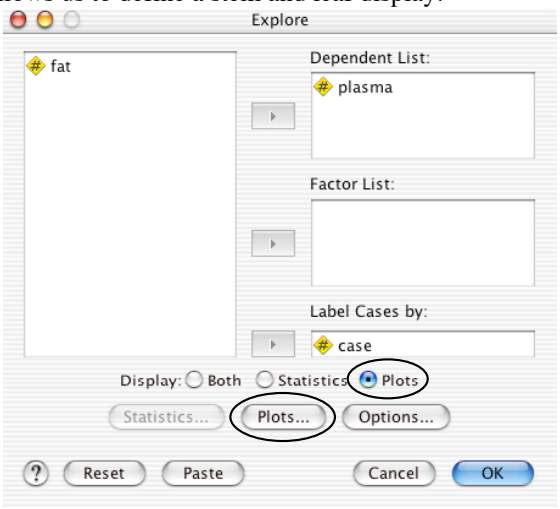
and from it we choose the "Descriptive Statistics" sub-menu:



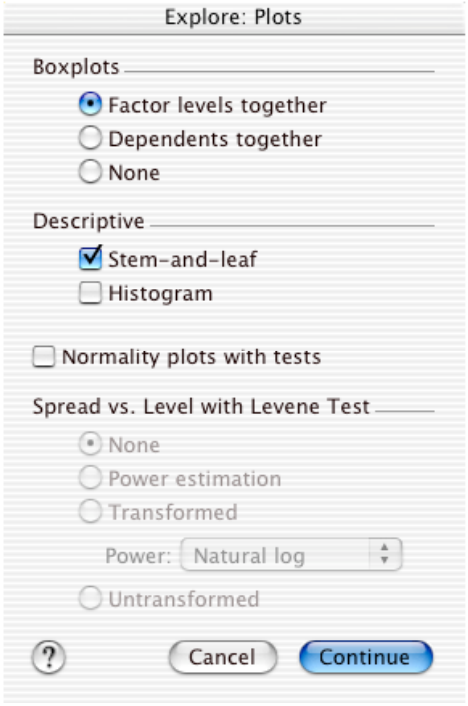
This opens a sub-menu window from which we can choose a Explore sub-menu:



This opens a window that allows us to define a stem and leaf display:

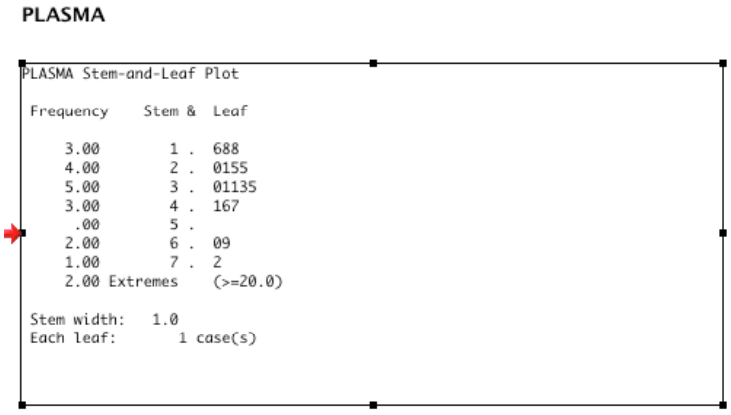


In this we choose a variable or variables for which to make a frequency table. In this case I have chosen the plasma concentration of dioxin (TCDD) for the 20 veterans. In this case, we want a "Plot" and no Statistics, so we choose the Plots circle. We push the Plots button, which displays a window:



We choose "None" for Boxplots (I haven't done that here). We choose Stem-and-Leaf and click continue. Notice this gives also an alternate way to do Histograms (and a way to do Boxplots different from that which we will discuss later).

We then click OK (or its equivalent on the Explore window. This creates .spo output of a stem-and-leaf display:



It should be saved and then cut and pasted into a document. Here we select the dispay (as indicated by the box around it and arrow pointing to it) and then select "Copy Object" under the Edit menu. We can then paste it into a document:

```
PLASMA Stem-and-Leaf Plot

 Frequency    Stem &  Leaf

     3.00        1 .  688
     4.00        2 .  0155
     5.00        3 .  01135
     3.00        4 .  167
      .00        5 .
     2.00        6 .  09
     1.00        7 .  2
     2.00 Extremes    (>=20.0)

 Stem width:   1.0
 Each leaf:       1 case(s)
```

Exercises

1. Use the data for Problem 2.14 in an SPSS Data Editor and save it as insect.sav on a floppy disk or hard drive.
2. Make a Stem-and-leaf display of the Oxon variable.
3. Write one paragraph describing the shape of the data for the Oxon variable based on the display
4. Make a Word document with the display and your paragraph and turn it.