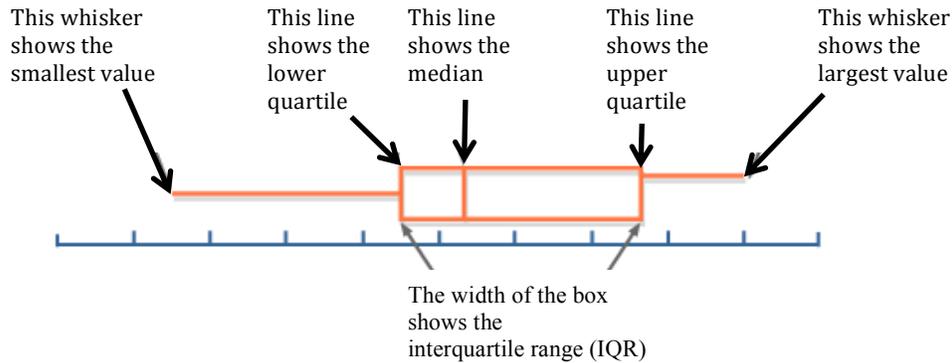

2.4 Box Plots

☞ A *boxplot* is a graph depicting a group of numerical data through its *five-number summary*: the smallest value, lower quartile (Q_1), median (Q_2), upper quartile (Q_3), and largest value.



To construct a box plot

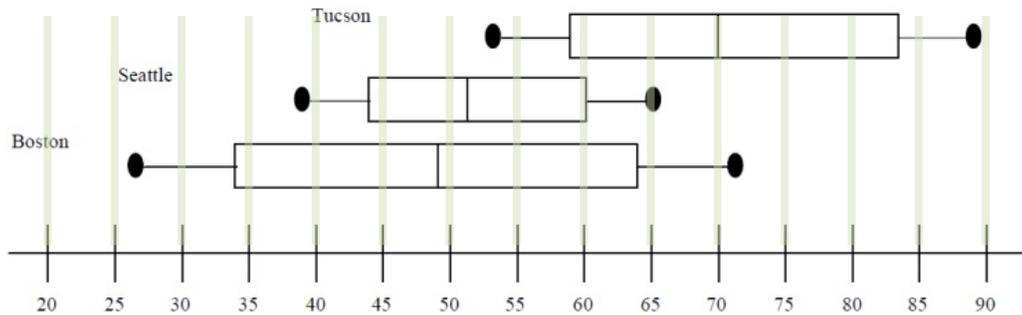
Step 1: Order the data list and find the five-number summary for the data.

Step 2: Draw a horizontal axis and place the scale on the axis. The scale should start on or below the minimum value and end on or above the maximum data value.

Step 3: Locate the lowest data value, Q_1 , the median, Q_3 , and the highest data value. Draw a box whose vertical lines align with Q_1 and Q_3 . Draw a vertical line in the box that aligns with the median. Lastly, draw a horizontal line, or whisker, that begins with the lowest data value and ends at the left side of the box and another horizontal line that begins with the right side of the box and ends with the highest data value.

Study the box plots below for trends in the data.

Boxplot: Average Daily Temperature for Each Month of the Year in Three Cities



Complete the Five-Number Summaries and IQR for each city:

City	Min	Q_1	Q_2	Q_3	Max	IQR
Tucson						
Seattle						
Boston						

Locate each city on the map below. Does each city's location explain the difference in its box plot values?

