

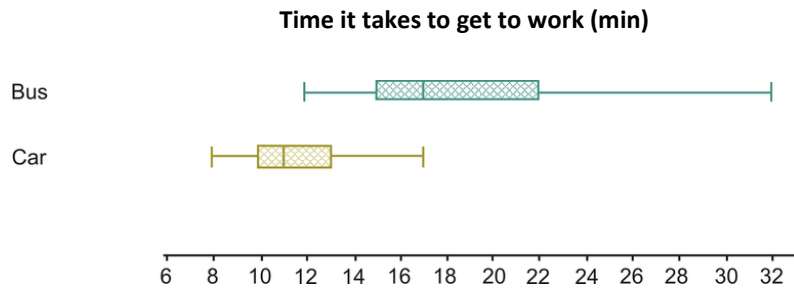
1. Here is the Bonds/Ruth data again. Create a double stemplot and then compare the distributions:

Barry Bonds (1986 – 2007): 16, 25, 24, 19, 33, 25, 34, 46, 37, 33, 42, 40, 37, 34, 49, 73, 46, 45, 45, 5, 26, 28

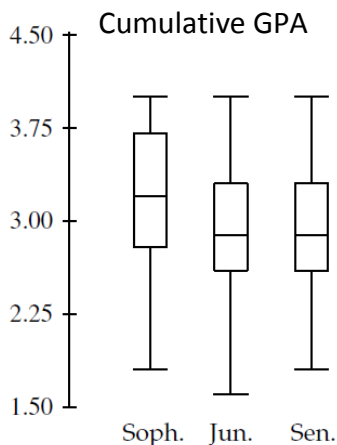
Babe Ruth (1915 – 1935): 4, 3, 2, 11, 29, 54, 59, 35, 41, 46, 25, 47, 60, 54, 46, 49, 46, 41, 34, 22, 6



2. Use sentences to compare the distribution of times it took to get to work driving a car versus taking a bus:



3. The boxplots below show the cumulative GPA for Kaiserslautern students for sophomores, juniors and seniors.



- a. Which class had lowest GPA?
- b. Which class had the most variation in GPA?
- c. Which two classes have centers that are closest to each other?
Approximate the value of that center.

Comparing Distributions

4.4 Corrective Assignment

1. Here is the Bonds/Ruth data again. Create a double stemplot and then compare the distributions:

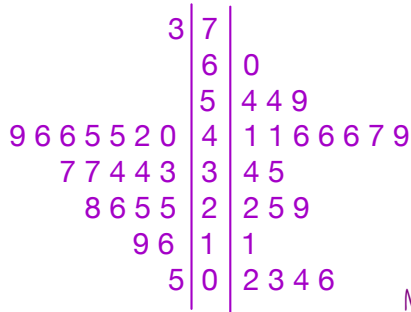
Barry Bonds (1986–2007): 16, 25, 24, 19, 33, 25, 34, 46, 37, 33, 42, 40, 37, 34, 49, 73, 46, 45, 45, 5, 26, 28

Babe Ruth (1915–1935): 4, 3, 2, 11, 29, 54, 59, 35, 41, 46, 25, 47, 60, 54, 46, 49, 46, 41, 34, 22, 6



Bonds

Ruth



where 3|9 means 39 HRs

Bond's distribution is skewed to the left while Ruth's is mostly symmetric.

The center of Bond's HRs is 34 while Ruth's is much higher at 41.

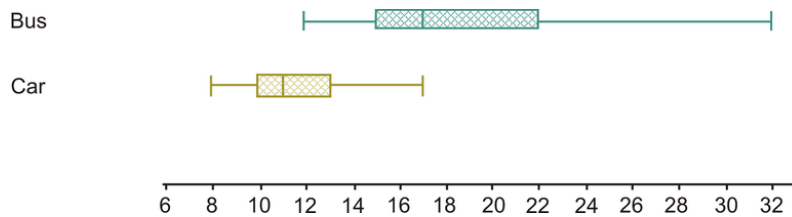
Bond's does appear to have an outlier at 73. Bond's HRs have a range of 67 while Ruth's range is 58. Bonds appears to be the more consistent hitter, even though he has one outlier.

Babe Ruth does have a candy bar named after him, though.

Note: these distributions appear to be different shapes when plotted with boxplot vs stemplots. This is why it is always good to look at data several different ways! (see practice #3)

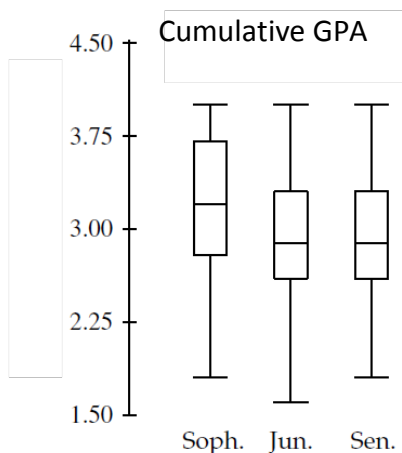
2. Use sentences to compare the distribution of times it took to get to work driving a car versus taking a bus:

Time it takes to get to work (min)



The median time it took to get to work by car is much lower than what it took to get to work by bus (11min compared to 17 min). The bus times have a much greater spread of times, as the range is 20min as compared to just 9min for the cars. Neither mode of transportation appears to have an outlier. The distribution of times for the bus is skewed to the right while the distribution of times for the cars is more symmetric.

3. The boxplots below show the cumulative GPA for Kaiserslautern students for sophomores, juniors and seniors.



a. Which class had lowest GPA?

The juniors appear to have the lowest GPA, although the seniors are close.

The median GPAs for both is around a 2.9.

b. Which class had the most variation in GPA?

The juniors distribution is the most spread out. Therefore, they have the most variation.

c. Which two classes have centers that are closest to each other?

Approximate the value of that center.

The juniors and seniors each have about a 2.9 GPA on average. Both also have a similar interquartile range.