SOC510 Homework #2 Solution

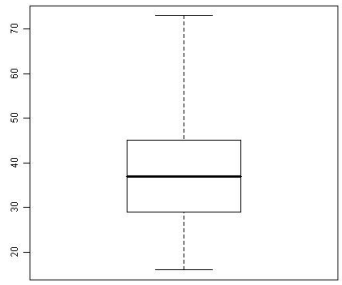
Chapter 2.

1. Using using the home run record of 2.4 (p.41), calculate the following statistics.

   (a) $\bar{x}$=703/19 = 37

   (b) $\tilde{x}$ = 37

   (c) 16–25–37–45–73



   (d)

   (e) IQR = 45-25 = 20

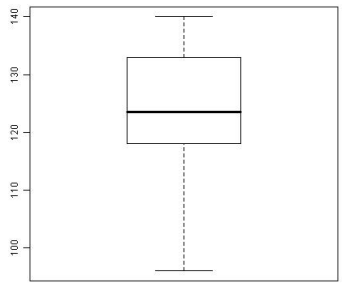
   (f) $s_x^2 = \dfrac{\sum x^2 - \frac{(\sum x)^2}{n}}{n-1} = \dfrac{29047 - \frac{703^2}{19}}{19-1} = 168.67$

   (g) $s_x^2 = \sqrt{s_x^2} = \sqrt{168.7} = 12.98$

2. (a) $\bar{x}$=2193/18 = 121.8

   (b) $\tilde{x}$ = 127.5

   (c) 86–115–127.5–133–145 (or 86–115.75–127.5–132.5–145)



   (d)

   (e) IQR = 133-115 = 18

(f) $s_x^2 = \dfrac{\sum x^2 - \frac{(\sum x)^2}{n}}{n-1} = \dfrac{271555 - \frac{2193^2}{18}}{18-1} = 257.3235$

(g) $s_x^2 = \sqrt{s_x^2} = \sqrt{257.3235} = 16.04$

(h) 50%

3. 2.18 (c); 2.19 (b); 2.22 (a); 2.24 (a)
2.25. The median is \$46,453 and the mean is \$58,886. The distribution is skewed to right, so the mean will be larger.
2.28(a). Min=23,040; Q1=30,315; Q2(median)=31,975; Q3=32,710; Max=33,650
2.32(a). $\bar{X}$ and s are appropriate for symmetric distribution with no outliers. 2.38. More than half of houeholds have zero credit card debt, thus the median is zero.