#1 (Total 30 Points)

(1)

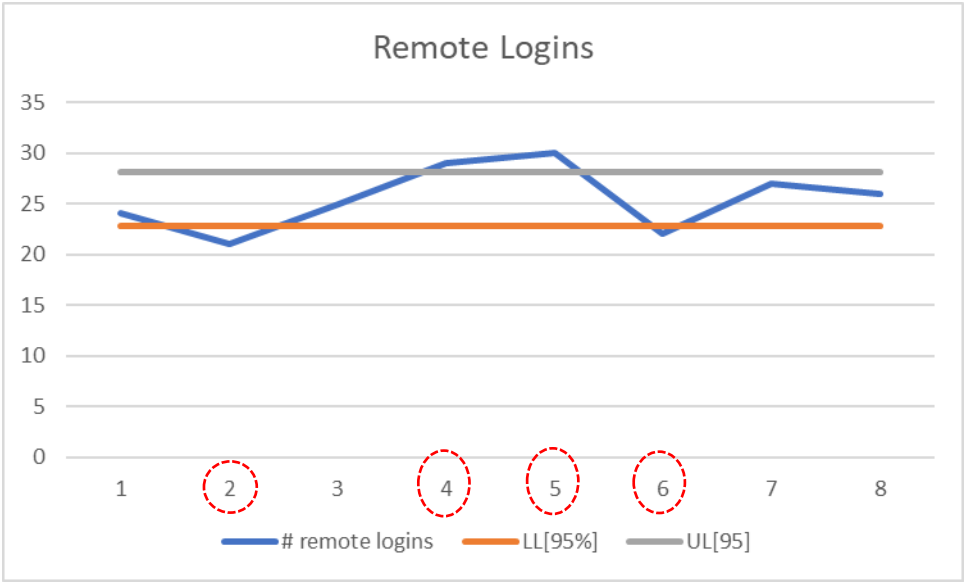
	# remote logins	LL[95%]	UL[95]
	24	22,86	28,14
	21	22,86	28,14
	25	22,86	28,14
	29	22,86	28,14
	30	22,86	28,14
	22	22,86	28,14
	27	22,86	28,14
	26	22,86	28,14
Mittelwert	25,50		
Standardabweichung	3,16		
T.INV.2S[0,95;7)	2,36		

# remote logins	
Mittelwert	25,5
Standardfehler	1,118033989
Median	25,5
Modus	#NV
Standardabweichung	3,16227766
Stichprobenvarianz	10
Kurtosis	-1,024
Schiefe	1,89994E-17
Wertebereich	9
Minimum	21
Maximum	30
Summe	204
Anzahl	8
Konfidenzniveau(95,0%)	2,643730284
LL[95%]	22,86
UL[95]	28,14

$$\bar{x} = \frac{1}{n} * \sum_{i=1}^{n} x_i = \frac{1}{8} * (24 + \cdots + 26) = 25{,}50$$

$$s = \sqrt{\frac{1}{n-1} * \sum_{i=1}^{n} (x_i - \bar{x})^2} = \sqrt{\frac{1}{8-1} * [(24 - 25{,}560)^2 + \cdots + (26 - 25{,}50)^2]} = 3{,}16$$

$$\bar{x} \pm t_{(\alpha/2)}^{[n-1]} * \left(\frac{s}{\sqrt{n}}\right) = \left[25{,}50 \pm 2{,}36 * \left(\frac{3{,}16}{\sqrt{8}}\right)\right] = [22{,}86; 28{,}16]$$

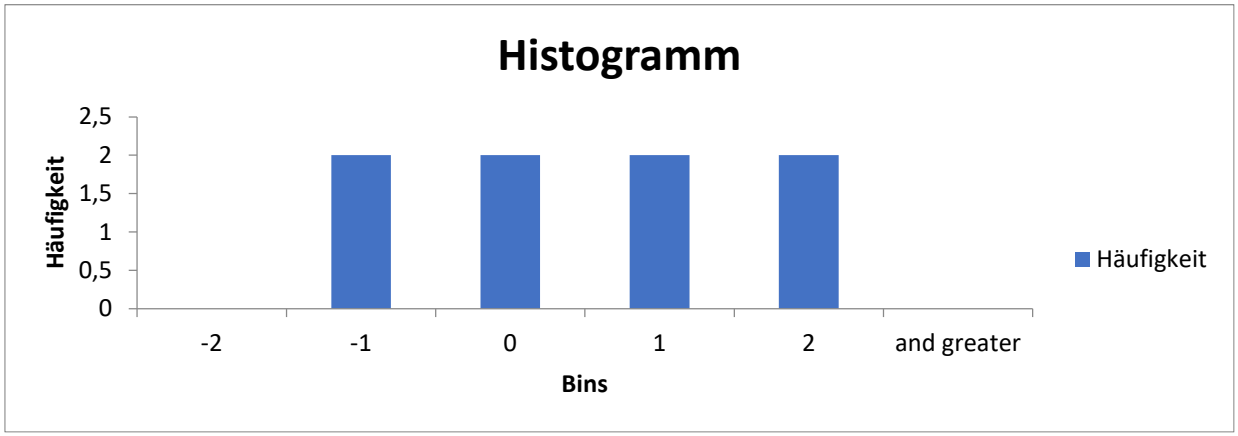


(2)

	# remote logins	Z-Value	Bins
	24	-0,47	-2
	21	-1,42	-1
	25	-0,16	0
	29	1,11	1
	30	1,42	2
	22	-1,11	
	27	0,47	
	26	0,16	
Mittelwert	25,50		
Standardabweichung	3,16		
T.INV.2S[0,95;7)	2,36		

Bins	Frequency
-2	0
-1	2
0	2
1	2
2	2
and greater	0

Interval	# of items
$-2 \leq value < -1$	2
$-1 \leq value < 0$	2
$0 \leq value < 1$	2
$1 \leq value < 2$	2



(3)

Most of the statistical analyses assume that the data follow a certain distribution. This is, in our case, the normal distribution.