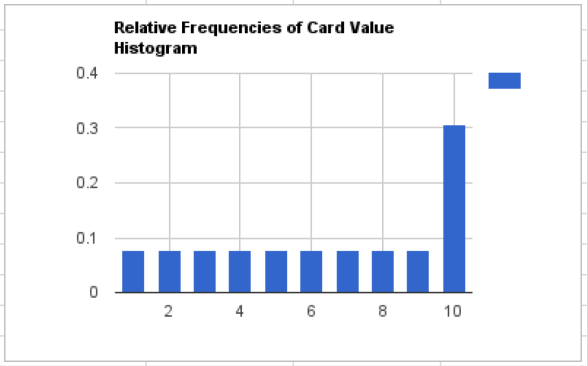
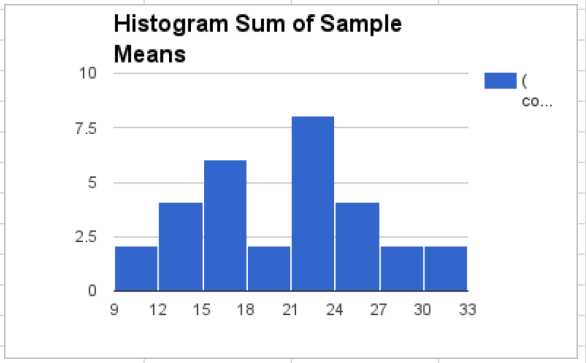
Final Project-Intro to Descriptive Statistics(Udacity)

4	1	0.07692307692	10	10 [1]	10 [2]	30	104.04	10
4	2	0.07692307692	2	4	10 [3]	16	14.44	10
4	3	0.07692307692	7	6	10 [4]	23	10.24	12
4	4	0.07692307692	5	2	3	10	96.04	13
4	5	0.07692307692	1	10	4	15	23.04	13
4	6	0.07692307692	5	2	10 [5]	17	7.84	14
4	7	0.07692307692	10 [6]	1	10	21	1.44	15
4	8	0.07692307692	3	3	6	12	60.84	15
4	9	0.07692307692	8	9	3	20	0.04	15
16	10	0.3076923077	8	1	4	13	46.24	16
total		total	10 [7]	2	9	21	1.44	17
52		1	7	8	10 [8]	25	27.04	17
Frequencies of card values above	Card Values above	Relative Frequencies of card values above	10 [9]	4	1	15	23.04	18
			9	10	10 [10]	29	84.64	20
mean of sample sums			5	10 [11]	3	18	3.24	21
19.8 [12]			10	5	10	25	27.04	21
variance			9	4	10	23	10.24	21
32.29333333			10	1	10	21	1.44	21
standard error			5	10 [13]	6	21	1.44	21
5.682722352 [14			1	10	4	15	23.04	23
median(Q2)			5	10 [15]	6	21	1.44	23
21 [16]			9	10 [17]	9	28	67.24	23
median(Q1)			1	10 [18]	2	13	46.24	24
15			4	2	4	10	96.04	24
medain(Q3)			3	5	9	17	7.84	25
24			9	10	4	23	10.24	25
IQR = Q3 - Q1			10 [19]	9	5	24	17.64	28
9 [20]			4	10 [21]	10 [22]	24	17.64	29
Range			7	6	1	14	33.64	30
20			10	10 [23]	10 [24]	30	104.04	30
			Sample of size three (n=3) above			Sum of the three cards in each sample above	(x-xbar)^2	Same as G column, but in sorted order for median cacluation above



The two distribution has different shapes, as the below one is drawn using the samples from actual population, and we already know that no matter what the shape of population is, distribution of sample means(sum in this case) always comes as normal. And as we keep increasing the sample size (n=3 here), the standard error(standard deviation of sample means) becomes lower and thus the distribution becomes more skinnier(normal).



Using z-table we found that 90.1 % of data lies within 1.65 standard deviation from mean. So applying that here, around 90% of our draw values are going to fall between 10 to 29.

As 19.8 is the mean of the above sample and 21 is the median, that means we have a probability of 0.5 approximately to get a draw value of atleast 20.

Using z-table again, we see that around 68% of values will fall between 14 to 26.

Notes

[1] K

[2] K

[3] Q

[4] J

[5] J

[6] Q

[7] Q

[8] K

[9] Q

[10] J

[11] K

[12] measure of central tendency

[13] J

[14] measure of variability

[15] K

[16] measure of central tendency

[17] Q

[18] Q

[19] J

[20] measure of variability

no outliers here, the distribution is quite normal

[21] Q

[22] K

[23] J

[24] K