Unit 4 Discussion – Is this Normal?

Unit 4 Discussion Example Main Post

One theory about the daily changes in the closing price of a stock is that these changes follow a random walk – that is, these daily events are independent of each other and move upward or downward in a random manner – and can be approximated by a normal distribution. To test this theory, collect the closing prices of stocks from for your favorite company or brand. You can find this by going to finance.yahoo.com and searching for "YourCompany stock history". See the DB Starter video in the Unit 4 LiveBinder.

Main Post:
1) Choose your favorite company or brand and search finance.yahoo.com with that company name and "historical stock prices". Download the stock history for this company for the past 6 weeks by selecting the appropriate dates and clicking on "Download to Spreadsheet" at the bottom of page.

2) Calculate the daily change in the closing stock prices by taking the difference between the closing and opening price for the day. This is the daily stock change.

3) Run the Descriptive Statistics->Summary Table in Excel Data Analysis on the daily stock change. Share the summary table.

4) Calculate the 1st and 3rd quartiles of the daily stock change. Share these along with the min, median and max from 3) as your 5-Number Summary.

5) Create a Box & Whiskers Plot using your 5-Number Summary. (For Help, refer to Unit 2 LiveBinder).

6) Is your daily stock change distribution right skewed (median < mean), left skewed (mean < median), or symmetric (mean ≈ median)? Would you consider your daily stock change to be normally distributed? Why or Why Not?

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1) I choose the stock for the Crocs, Inc.

2) The daily change of this stock is:

	Open	High	Low	Close	Volume	Adj Close	Daily Change
7/14/2016	12.43	12.54	12.18	12.21	655400	12.21	-0.22
7/13/2016	12.3	12.48	12.28	12.31	785400	12.31	0.01
7/12/2016	12.15	12.43	12.01	12.29	726200	12.29	0.14
7/11/2016	11.75	12.15	11.75	12.02	625500	12.02	0.27
7/8/2016	11.49	11.95	11.49	11.73	600700	11.73	0.24
7/7/2016	10.87	11.38	10.82	11.36	749800	11.36	0.49
7/6/2016	10.7	10.96	10.65	10.87	711000	10.87	0.17
7/5/2016	11.31	11.33	10.79	10.8	656200	10.8	-0.51
7/1/2016	11.3	11.46	11.23	11.37	379400	11.37	0.07
6/30/2016	10.82	11.31	10.77	11.28	851500	11.28	0.46
6/29/2016	10.58	10.98	10.49	10.96	544500	10.96	0.38
6/28/2016	10.21	10.53	10.2	10.41	504100	10.41	0.2
6/27/2016	10.75	11.03	9.97	10.17	1162000	10.17	-0.58
6/24/2016	10.8	10.99	10.52	10.84	1197100	10.84	0.04
6/23/2016	11.43	11.47	11.2	11.26	613100	11.26	-0.17
6/22/2016	11.29	11.5	11.21	11.36	1304400	11.36	0.07
6/21/2016	11.16	11.36	11.07	11.29	752900	11.29	0.13
6/20/2016	10.96	11.4	10.95	11.19	693300	11.19	0.23
6/17/2016	10.64	10.96	10.62	10.85	1046900	10.85	0.21
6/16/2016	10.57	10.66	10.28	10.64	496200	10.64	0.07
6/15/2016	10.38	10.73	10.38	10.61	498900	10.61	0.23
6/14/2016	10.52	10.64	10.16	10.37	499700	10.37	-0.15
6/13/2016	10.7	10.77	10.49	10.51	684300	10.51	-0.19
6/10/2016	10.62	10.75	10.48	10.72	899500	10.72	0.1
6/9/2016	10.4	10.81	10.31	10.77	1171900	10.77	0.37
6/8/2016	10.29	10.56	10.25	10.51	722500	10.51	0.22
6/7/2016	10.25	10.44	10.24	10.34	484000	10.34	0.09
6/6/2016	10.24	10.36	10.19	10.28	518100	10.28	0.04
6/3/2016	10.34	10.39	10.2	10.26	790700	10.26	-0.08
6/2/2016	10.35	10.38	10.11	10.38	1017900	10.38	0.03
6/1/2016	9.85	10.37	9.81	10.35	1030100	10.35	0.5

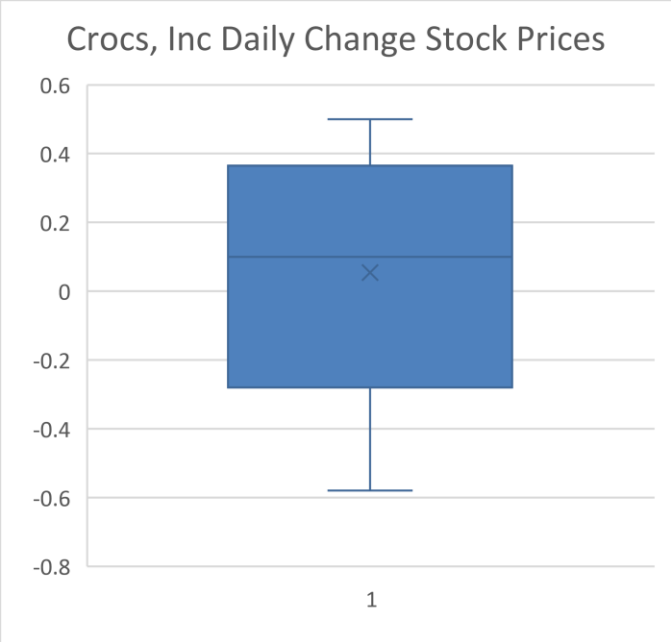
3. The descriptive statistics summary table is:

Daily Change	
Mean	0.092258065
Standard Error	0.045544991
Median	0.1
Mode	0.04
Standard Deviation	0.253583775
Sample Variance	0.064304731
Kurtosis	1.080704205
Skewness	-0.804832308
Range	1.08
Minimum	-0.58
Maximum	0.5
Sum	2.86
Count	31

4. Here is my 5-Number Summary:

Five-Number Summary	
Minimum	-0.58
First quartile	0.02
Median	0.1
Third quartile	0.23
Maximum	0.5

5. The Box & Whiskers Plot does not look very symmetric:



6. The Mean, xbar = 0.0923 < Median = 0.1

From that information and also the box plot, you can tell that my daily stock price is not symmetric but instead slightly left-skewed.