ISyE 6739 – Group Activity 1 Solution

January 15, 2018
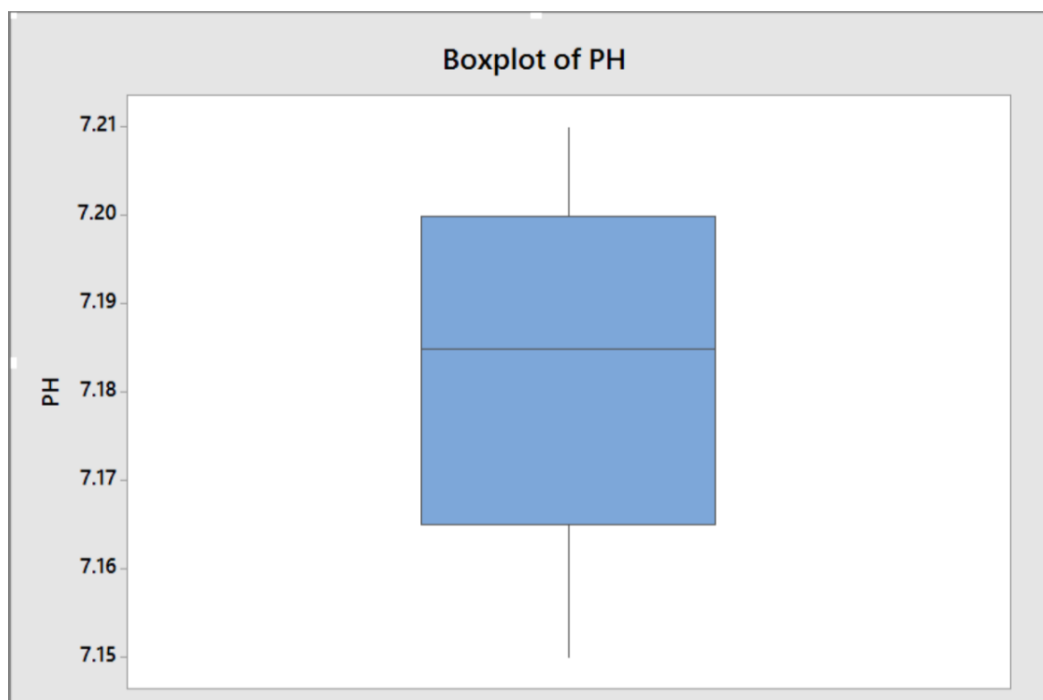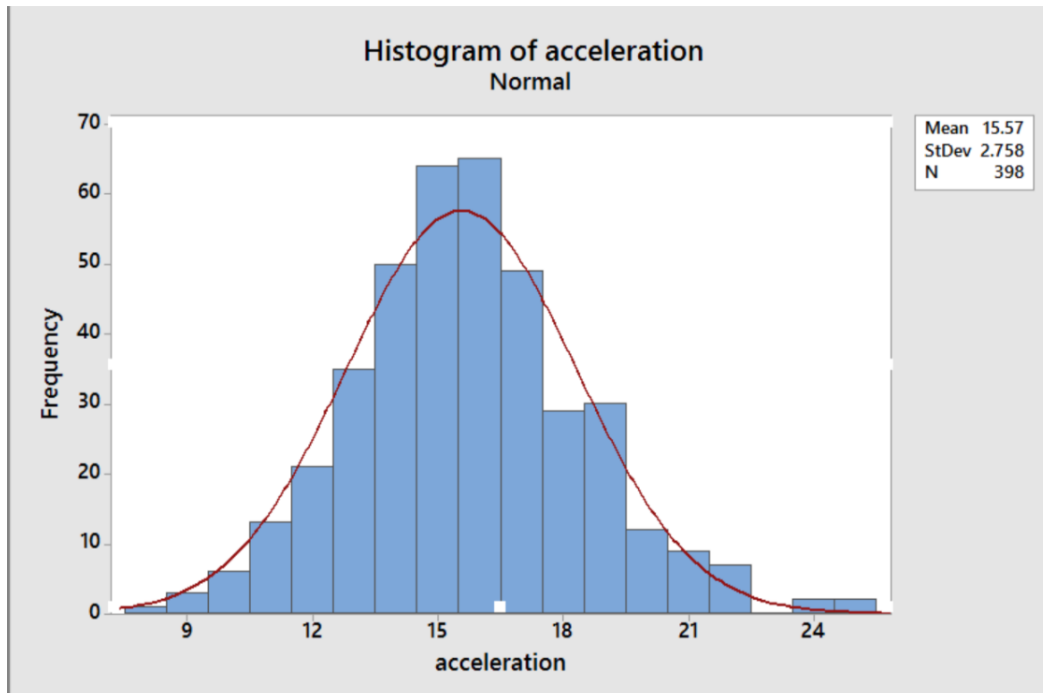
1. a)

Descriptive Statistics: PH

Statistics

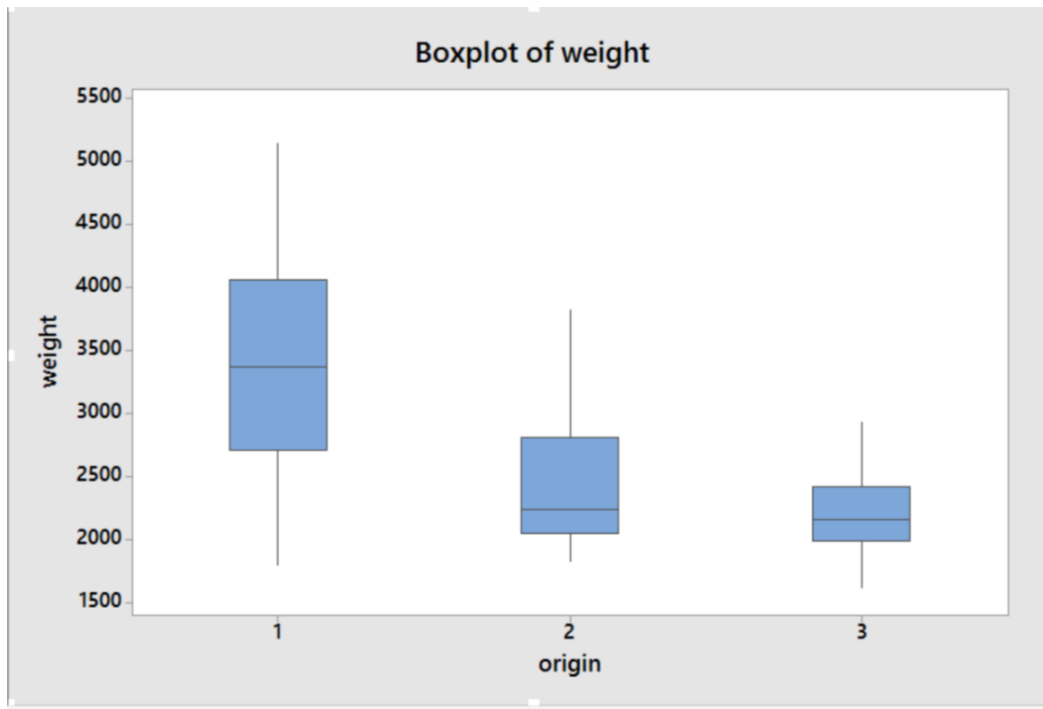| Variable	Mean	StDev	Variance	CoefVar	Q1	Median	Range	IQR	Mode	N for Mode
PH	7.0963	0.2417	0.0584	3.41	7.1525	7.1800	0.7100	0.0450	7.18	2

b)

2. 1) What is a shape of *acceleration* distribution?

Histogram of acceleration
Normal

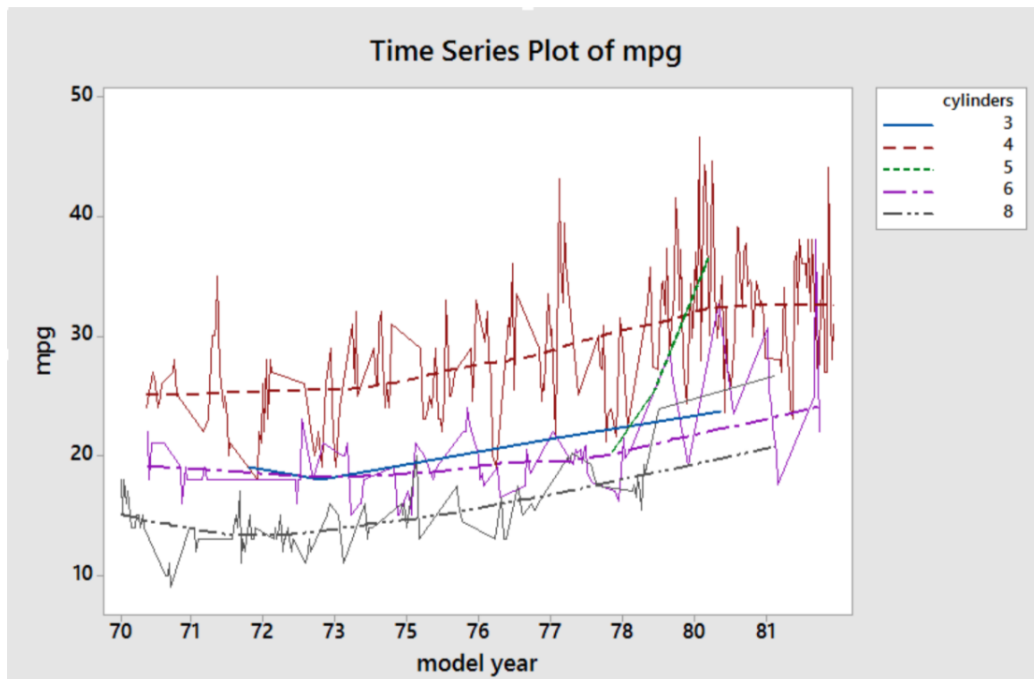|	
Mean	15.57
StDev	2.758
N	398

Data is symmetric and follows normal distribution. Sample mean=15.57, Std. deviation=2.278.

2) How does the *weight* distribution differ across different *origins*?

Boxplot of weight

The distribution for *origin 1* is symmetric, median=3365. Data has the largest variance (range=3340) upon other *origins*. First quantile almost equal to the third quantile for *origin 2* and larger then the third quantile for *origin 3*, so we can say that *origin 3* has the largest weight. The distribution for *origin 2* is right-skewed with the median=2240 and the range=1995. The distribution for *origin 3* is right-skewed with the median=1985 and the range=1318.

3) How was the value of *mpq* changing during the time across different *cylinders*?

Time Series Plot of mpg

For all types of cylinders *mpq* has an increasing trend but there are no patterns or cycles.