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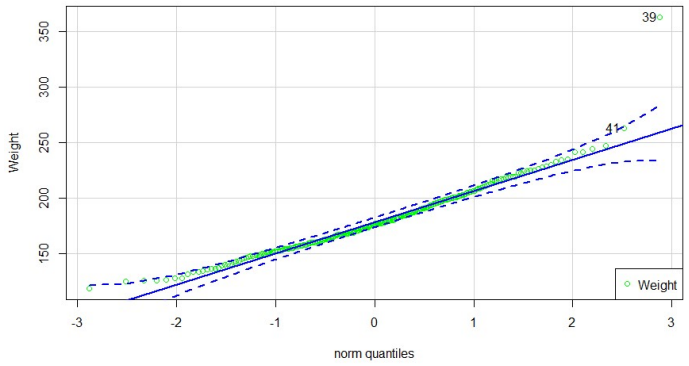
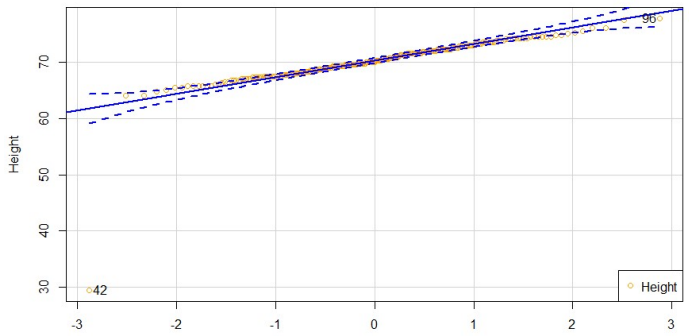
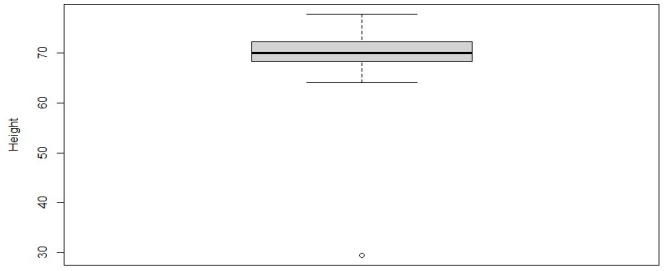
DATA PROJECT 4:

The data set is based on the body fat, along with other various measurements from a sample of 252 men, presumably from America. From these measurements, I am focusing on the height and weight of the sample. The weight of the sample is measured in pounds and the height is measured in inches. Analyzing the height and the weight specifically will give us an idea of the distribution of height with respect to weight.

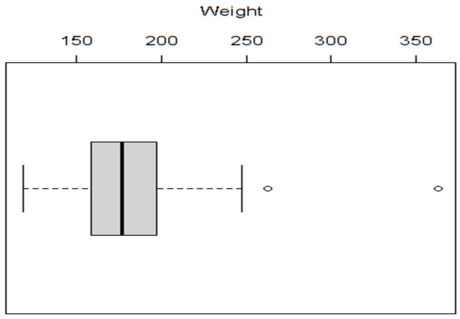


This is a quantile-quantile plot for the weight distribution. Since the sample size is above 40, that is, 252, and all the points approximately fall along this line, we can say the distribution is a standard normal distribution. Similarly, for the height, we created a plot that is also a standard normal distribution because the sample size is above 40.





In this box plot, and with the help of the five number distribution, we find that the median is at 70 inches, the interquartile range is 4.00 inches, and we can see there is an extreme outlier at 29.50 inches. Similarly, for weight, we find that the median is 176.50 pounds, the interquartile range is 38.25 pounds, and there is an extreme outlier, 363.15 pounds, and an outlier, 262.75 pounds.



	Mean	S.D.	95% C.I.	First Quartile	Median	Third Quartile	I.Q. Range	Outliers	Extreme Outliers
Weight	**178.92**	**29.39**	**(175,183)**	**158.75**	**176.50**	**197.00**	**38.25**	**262.75**	**363.15**
Height	**70.15**	**3.66**	**(69.7,70.6)**	**68.25**	**70.00**	**72.25**	**4.00**	**N/A**	**29.50**

The 95% confidence interval for the weight of the sample is (175,183), which means that I can be 95% confident that if the process is to be repeated, and the interval calculated, the random fixed population value μ will be between the interval. Similarly, for the 95% confidence interval for the height of the sample, that is, (69.7,70.6), I can be 95% confident that if this process were to be repeated many times over, and the interval calculated, the random fixed population value μ will be between this interval.

Rasp, J. (n.d.). Journal Of Statistics Education Body Fat. Retrieved June 08, 2020, from https://www2.stetson.edu/~jrasp/data.htm