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1a. No, the empirical data does not match the normal distribution because the points on the graph do not follow a linear trend line.

1b. We would have to remove some data points from the empirical data or generate more normally distributed numbers to match with the empirical data sample.

2a. Yes the empirical data matches the normal distribution because the Q-Q Plot is almost a straight line (follows a linear trend).

2b. The Q-Q plot generated in the part 1 did not follow a linear trend while the Q-Q 2nd plot did; this means that the data in the second Q-Q plot followed a normal distribution and the data in the first part followed a different distribution, maybe exponential.

2c. Variance, in my opinion, causes the difference between the graphs. In the first graph, the variance was ~ 2.3 , while in the second graph, the variance was ~ 1.3 .

3a. No, the graph does not fit the normal distribution.

3b. The graph does not follow a linear trend.

3c. The theoretical distribution might be exponential because of the variance is almost 3.