Question 2(a) Histogram, mean=0, sigma=0.2

Histogram Q2a (mean = 0, sigma = 0.2)

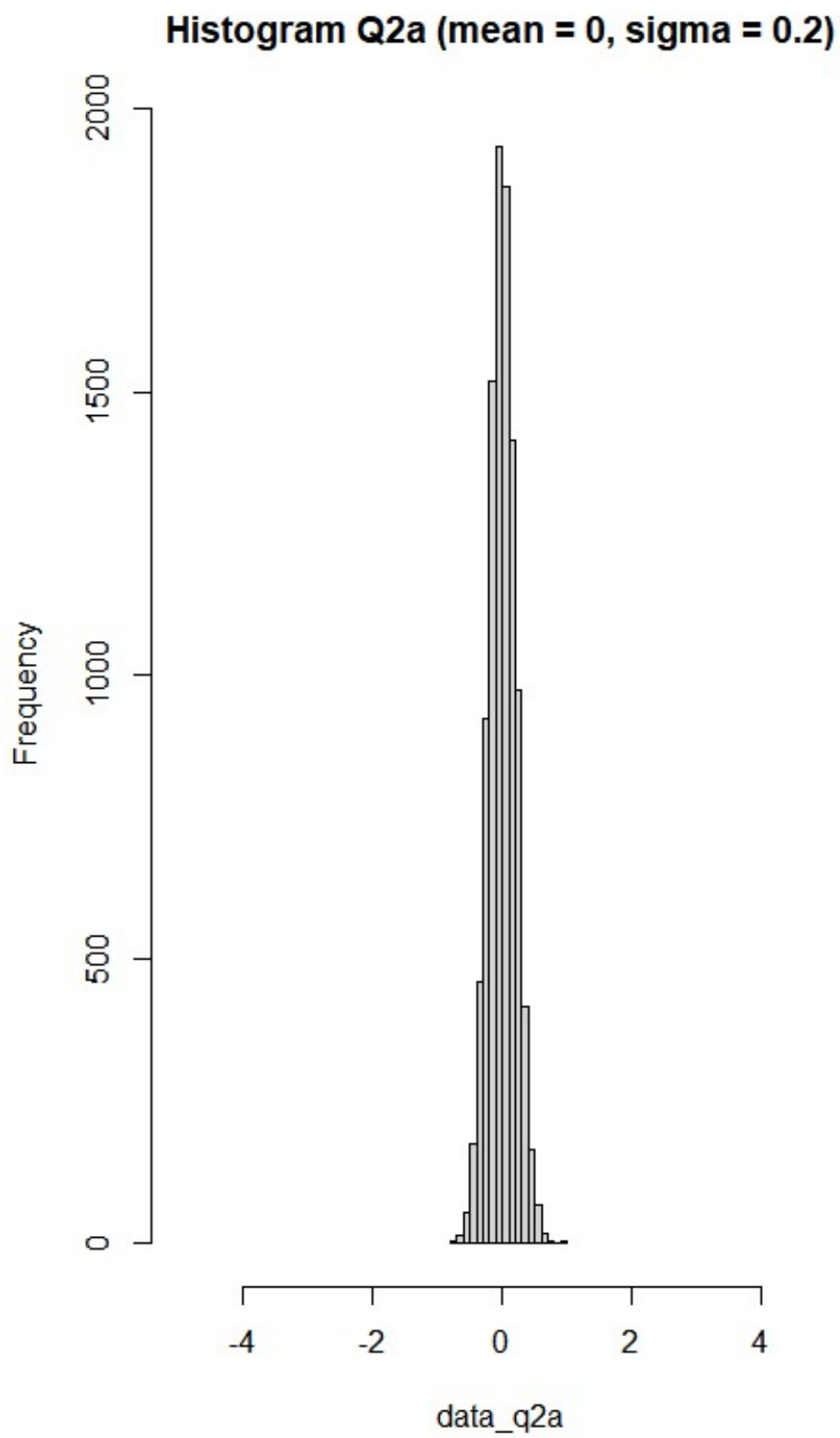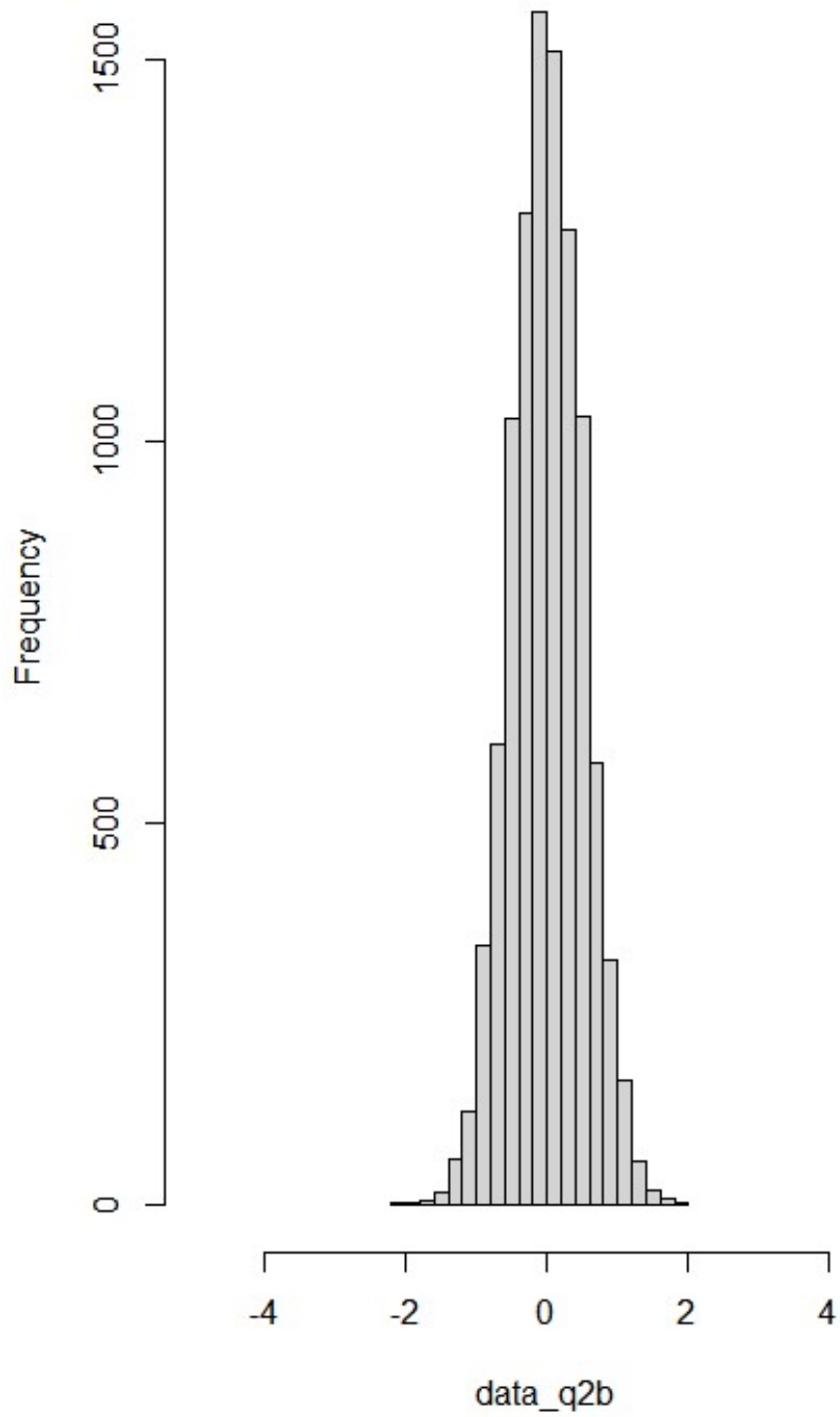Frequency

data_q2a

Question 2 (b) Histogram, mean=0, sigma=0.5

Histogram Q2b (mean = 0, sigma = 0.5)

The difference between the graphs is a result of the different standard deviation values. On graph 2a, the standard deviation of 0.2 leads to a higher frequency of values near the mean, creating tall and narrow peaks with steep intervals. On graph 2b, the standard deviation of 0.5 leads to a wider distribution of values, reduced degree of intervals between values, and reduced frequency of values near the mean. The relationship between the two graphs demonstrates how the standard deviation impacts the spread and height of a distribution.