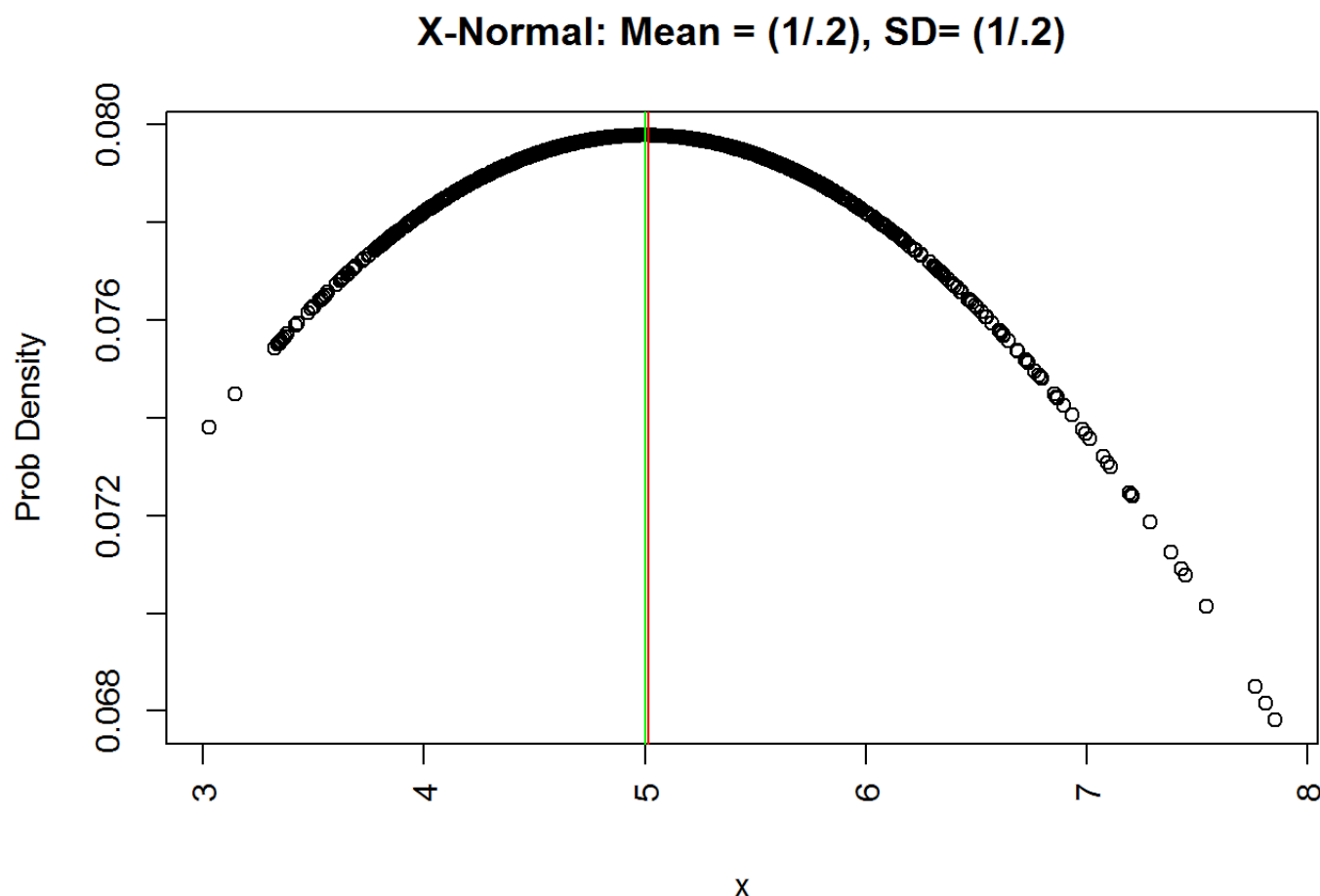


Statistical Inference Assignment

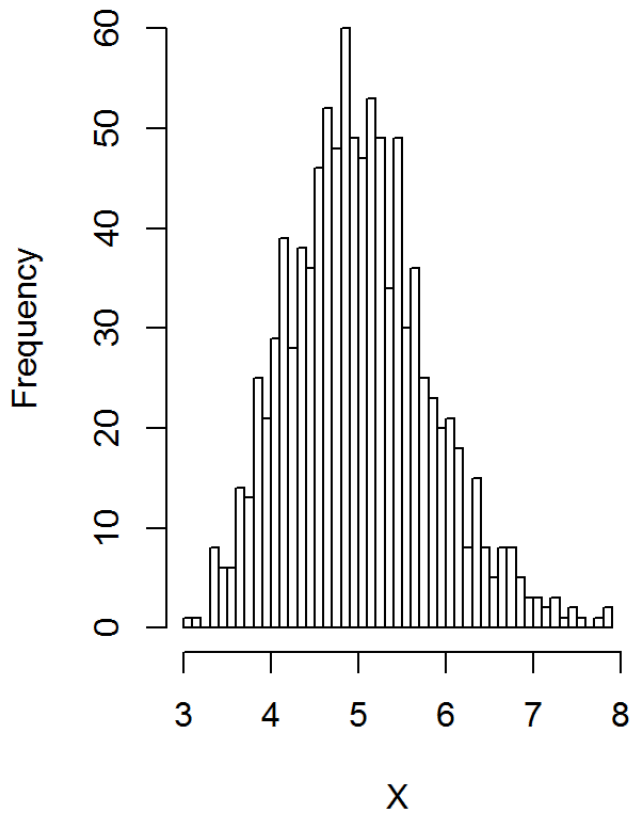
Part 1: Simulation exercises



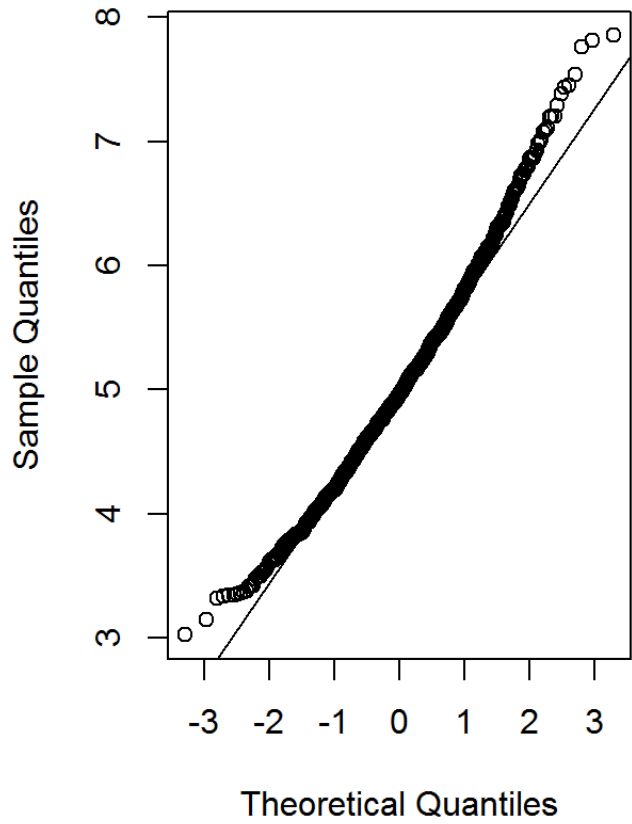
Q1. In the graph the green line is the theoretical mean at 5 and the red line is calculated mean at 5.0147. As you can see the calculated the theoretical mean is approx. identical.

Q2. The theoretical variance is $(1/.2)^2 = 25$. The calculated real variance is 0.6412. The real variance is significantly lower than the theoretical variance.

Histogram of X



Normal Q-Q Plot



Q3. Looking at the histogram and the corresponding qqplot you can see that the distribution is approx. normal with slightly fat tails

Q4. The approx. coverage of the confidence interval is 947 out of 1000 or 94.7 %