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Below I included all of the graphs asked for. As you can see, all of the histograms, regardless of distribution, have the shape of a normal distribution. This is due to the central limit theorem. This theorem states that given a large number of random samples from a distribution with a well defined mean and variance will yield approximately the normal distribution. You can see this in all of the graphs below. I first plot the given distribution. I then took a random sample of 4000 points. The mean of this sample was then taken with three different values of n . As you can see from these graphs they all look approximately normal. These are all examples of the central limit theorem.

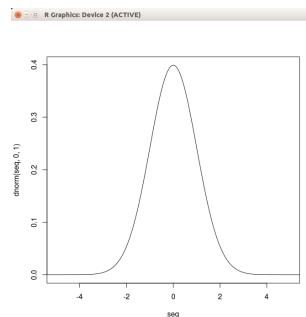


Figure 1: Standard Normal Curve

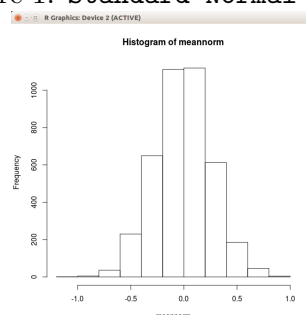


Figure 2: $n = 15$

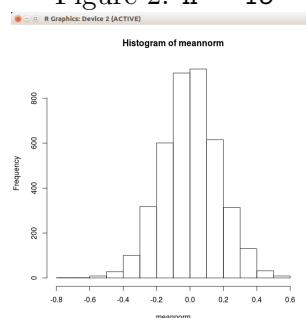


Figure 3: $n = 35$

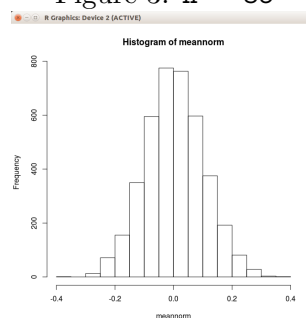


Figure 4: $n = 100$

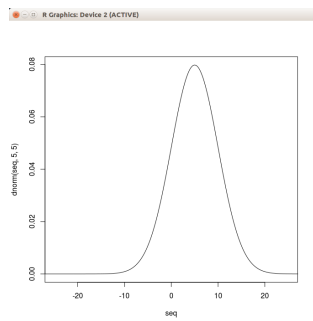


Figure 5: Normal mean = 5 sd = 5

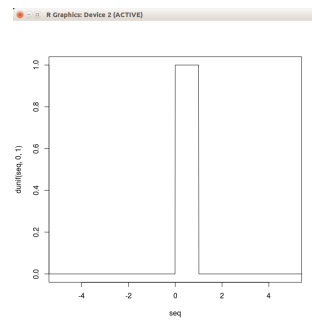


Figure 9: Uniform a = 0, b = 1

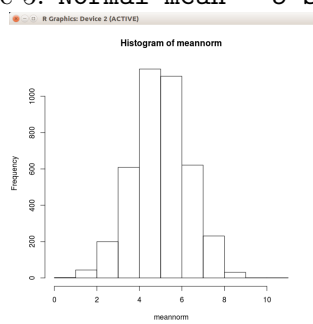


Figure 6: n = 15

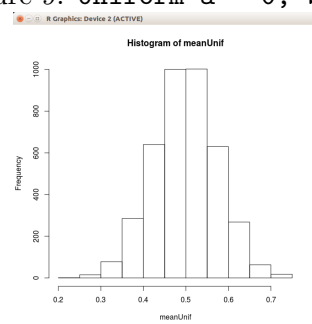


Figure 10: n = 15

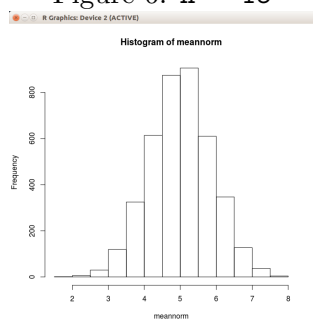


Figure 7: n = 35

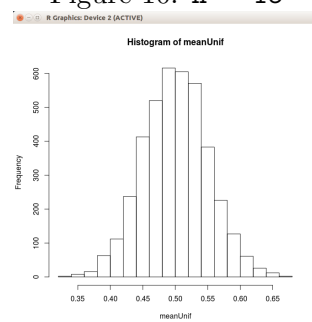


Figure 11: n = 35

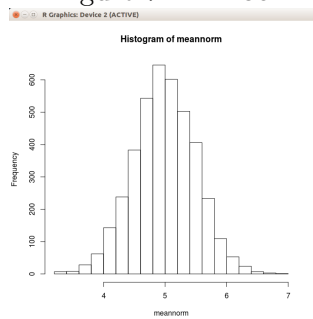


Figure 8: n = 100

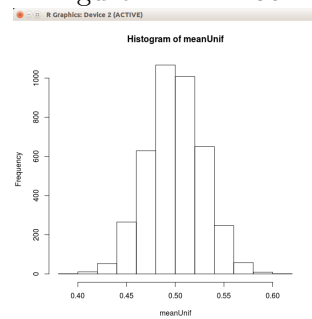


Figure 12: n = 100

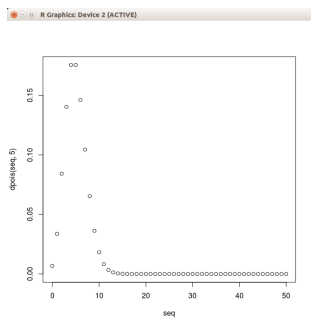


Figure 13: Poisson $\lambda = 5$

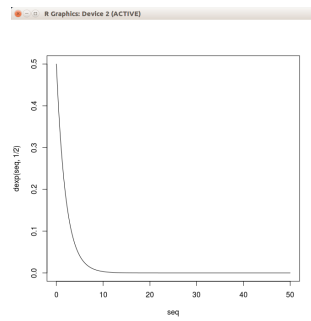


Figure 17: Exponential $\mu = 2$

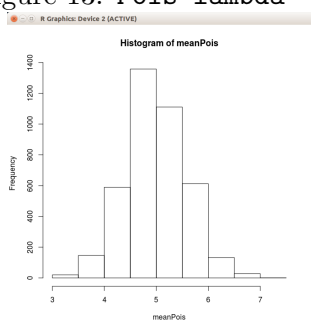


Figure 14: $n = 15$

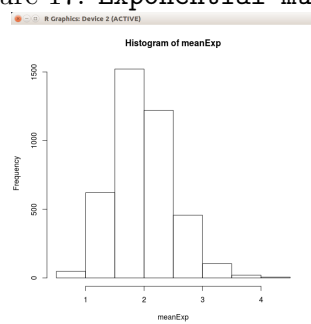


Figure 18: $n = 15$

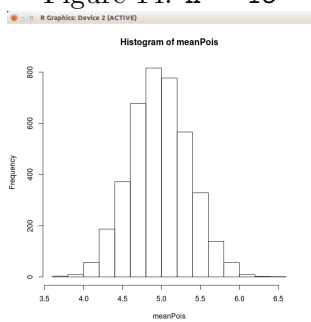


Figure 15: $n = 35$

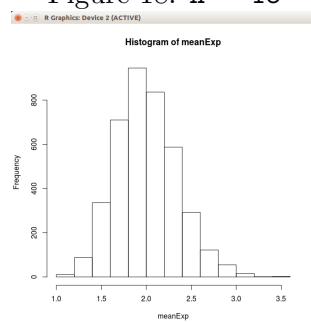


Figure 19: $n = 35$

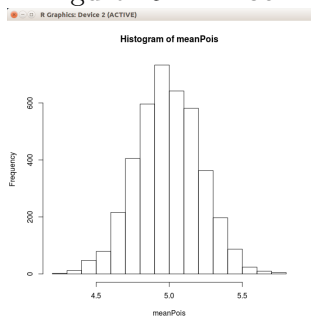


Figure 16: $n = 100$

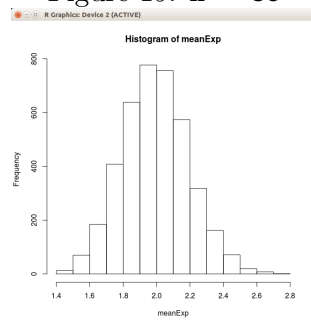


Figure 20: $n = 100$