*R - ASSIGNMENT CODES*

1. A. **Skewed**. The normal quantile plot has a crescent shape with the points lying above the diagonal both at the lower and upper ends. Further, the points are a lot closer together in the left tail than in the right tail. This implies that the data is right skewed

B. **Outliers**. There are a couple of points which are quite far away from the rest of the data and have values quite different from those expected from a normal distribution.

C. **Normal**. All of the points track the diagonal quite closely and lie within the bounds.

D. **Bimodal**. The density of points near the median is much thinner than on either side of the median. This means significant probability masses on either side of the median with a low probability mass near the median, a shape characteristic of a bimodal distribution.

1. **A. False**. Based on the Central Limit Theorem, the mean weights are normally distributed even if the individual package weights don’t have a normal distribution so long as the sample size conditions necessary for normality are satisfied. So those conditions should be checked.

**B. True**. SE = 5/5 = 1lb

1. **Ans is D**. The probability of investigation is the same as probability that the sample mean beyond $45 and $55. Standard Error = 4, The z-values corresponding to 45 and 55, are (-1.25) and (+1.25) Therefore, P(45<= X<=55) = P(-1.25<= Z<=1.25) = 0.79.

Probability that the sample mean is beyond the limits is (1-0.79) = 0.21.

1. **Ans is D.** P(45<= X<=55) = 0.95, Z value corresponding to 45 and 55 are (-1.96) and (+1.96) respectively.

**1.96 = (55-50)/SD = SD = 2.55. n = 245.86**

1. **Ans is D.** From Central Limit Theorem ans is 720.