1. To ensure work reproducibility, we will set a seed of 123 before taking a random sample of 25 observations from the population. We will then calculate the mean and highest glucose values of this sample and compare them with the population statistics of the same variable using a histogram and a boxplot.

Chart, histogram

Description automatically generated

Chart, box and whisker chart

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Text, letter

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Based on the histograms and boxplots, we can see that the distribution of glucose in the sample is slightly different to that of the population. The mean glucose of the sample is 116.44, which is slightly lower than the population mean of 120.89. The highest glucose value in the sample is 197, which is also lower than the population maximum of 199.