CS 1173: HW 7 Statistical indicator worksheet

1. Suppose $x = [2, 4, 6, 8]$ is a sample of an underlying population $X$. Calculate by hand (using a calculator only for arithmetic):

   a) The mean of $x$:

   b) The variance of $x$:

   c) The standard deviation of $x$:

   d) The standard error of the mean of $x$ (SEM) mean:

   e) An estimate of the mean of the underlying population $X$:

   f) An estimate of the standard deviation of the underlying population $X$:

   g) An estimate of the 95% confidence interval for the mean of the underlying population $X$:

2. Suppose $x = [2, 4, 6, 8]$. Draw a labeled box-plot for $x$ on the grid and fill in the following:

   a) The median of $x$:

   b) The percentiles corresponding to $x$ values:

   c) 25th percentile of $x$:

   d) 75th percentile of $x$:

   e) The IQR of $x$:
3. Suppose $x = [1, 7, 3, 4, 5, 7, 9, 10, 2, 1]$ and $y = [1, 3, 2, 4, 5, 3, 5, 4, 2]$.

a) Fill in the frequency table for $y$. Reserve the first row for a table header. Fill the header and table in appropriately. Draw a histogram of $y$ on the grid provided. Label the axes appropriately.

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<th>Frequency table</th>
<th>Histogram</th>
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b) Draw a scatter plot of $x$ versus $y$ on the following grid. Be sure to label the axes.

Scatter plot