Ex: Using the following nine data values, calculate a two-sided confidence interval for
              the mean with significance level 1%:

                    9 -1 -2 -4 6 -2 7 -9 -4

              Assume the values are i.i.d. and normally distributed.

              Formulas for sample mean and variance:

$$\bar{X} = \frac{1}{n}\sum_{i=1}^{n} X_i \qquad\qquad S^2 = \frac{1}{n-1}\sum_{i=1}^{n}(X_i - \bar{X})^2$$