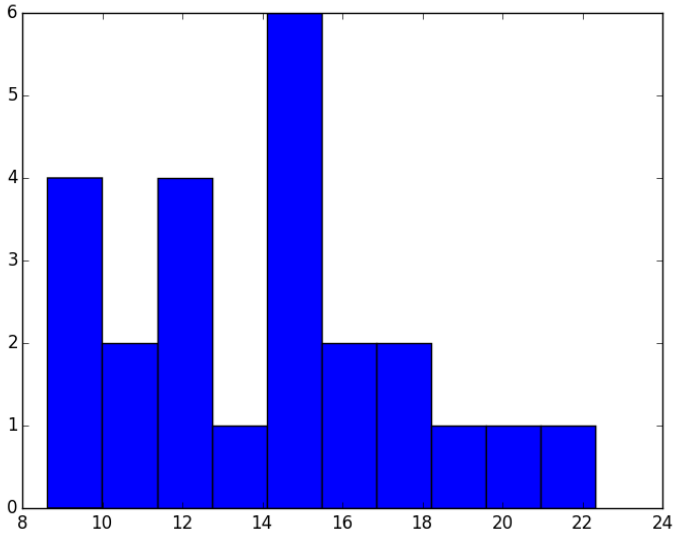
1. What is our independent variable? What is our dependent variable?
   Independent variable: ink colors
   Dependent variable: time it takes to name the ink colors

2. What is an appropriate set of hypotheses for this task? What kind of statistical test do you expect to perform? Justify your choices.
   H_0: $\mu_c \geq \mu_{ic}$
   H_1: $\mu_c < \mu_{ic}$
   I'm expecting to perform a t-test. Because here we don't know the parameters from population but two samples.

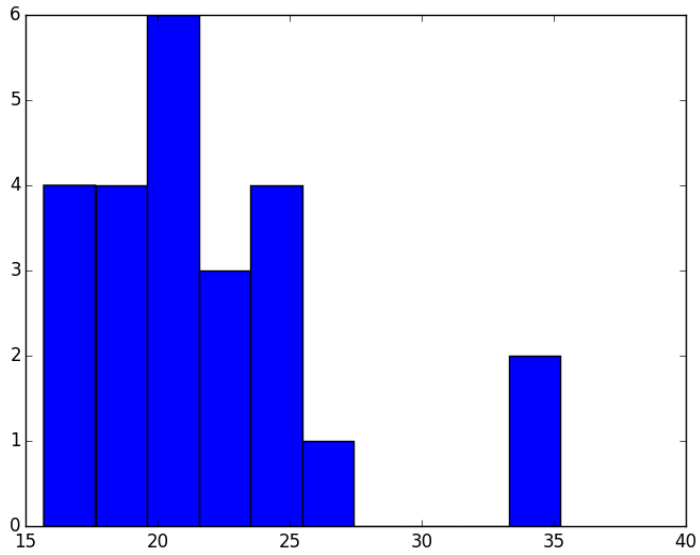
3. Descriptive statistics:
   Congruent:
   - Mean: 14.05
   - Median: 14.357
   - Mode: N/A
   - Std: 3.56

   Incongruent:
   - Mean: 22.016
   - Median: 21.018
   - Mode: N/A
   - Std: 4.797

4.



   This is the histogram of the distribution of the time to name the color from the congruent set. The data from this set is more wide-spread and symmetrical compared to another.



This is the histogram of the distribution of the time to name the color from the incongruent set. This set of data is right skewed, leaving an outlier at around 33-35 interval. And the data is more consistent or narrowed compared to another without considering the outlier.

5. T-test:
   SS_c = 291.388
   SS_{inc} = 529.270
   SP^2 = 17.840
   SE = 1.219
   $T_{c\text{-}inc}$ = -6.532
   $Mean_c - Mean_{inc}$ = -7.965
   When $\alpha = 0.01$, df = 46, $t_{critical}$ = -2.403
   99% confidence interval: $(-7.965 - 2.678 * 1.219, -7.965 + 2.678 * 1.219) = (-11.229, -4.701)$

   Conclusion: since the t statistic is less than the t-critical, it is significant that the time spent on congruent set is less then the time spent on incongruent set. We reject H_0.