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1) Independent Variable: Stimulus (Whether it is congruent or not)

   Dependent Variable: Reaction time

2) Null Hypothesis: There will be no significant difference between the population's average reaction times when viewing congruent words versus incongruent words.

   Alternate Hypothesis: There will be a significant difference, either positive or negative, between the population's average response times viewing congruent words versus incongruent words.

   Because the population standard deviation is not given and the sample size n < 30, we will use a t-test. Furthermore both data sets describe the same individuals, thus requiring a paired t-test. The methods will be one-sided, as we are only interested in seeing if the incongruent tests take more time to finish (all subjects took more time to finish the second test anyways)

3)

	Congruent	Incongruent
Mean Response Time (s)	14.05113	22.01592
Variance	12.669	23.011
Standard Deviation	3.559	4.8
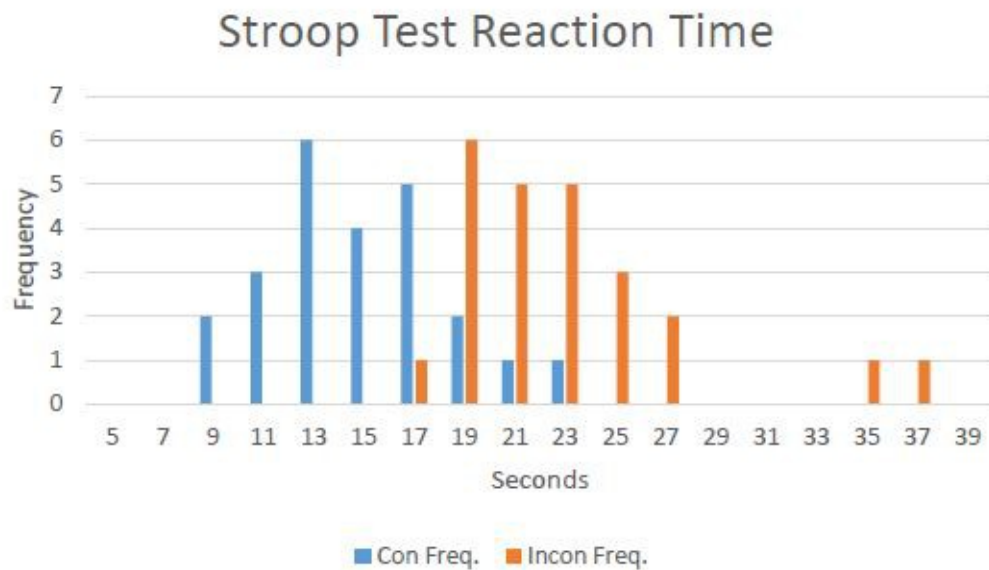
4)

   While points at Seconds = 35, 37 can be disregarded as outliers, both experiments demonstrate Gaussian distributions, where the data from the incongruent test is shifted by about +8 seconds after the congruent test.

5) alpha = 0.01, Critical value (23 Degrees Freedom) = 2.500

6) p-value = 2.0515E-08

   t-statistic = 8.0207

   Because the t-statistic is well above the critical value, we can safely reject the null-hypothesis at the 0.01 level of significance.

   Source: <https://en.wikipedia.org/wiki/Stroop_effect#Stroop_test>