1)

Independent Variable
The color of the words given to the participants is independent variable . The words were congruent or in-congruent.

Dependent Variable

The dependent variable is the time taken by the participants because their time was dependent on if the word is congruent or in-congruent.

2)

Hypothesis

$H0 : \mu c = \mu i$
$Ha: \mu c \neq \mu i$

μc represents population mean for congruent data set.
μi represent population mean for in-congruent data set.

H0 represents null hypothesis, i.e. the mean of the population reaction time is same for both incongurent and congruent dataset at an alpha level 0.05

Ha represent the alternative hypothesis, i.e. the mean of the population reaction time is significantly different in in-congruent and congruent data set at an alpha level 0.05.

Paired t-test, used to compare the means between two related groups of samples. Since the two groups are related in this case paired t-test be done.

Dependent when the same subjects take test twice. In our case too the subjects take the same test twice.

Therefore we will perform dependent paired t-test.

3)

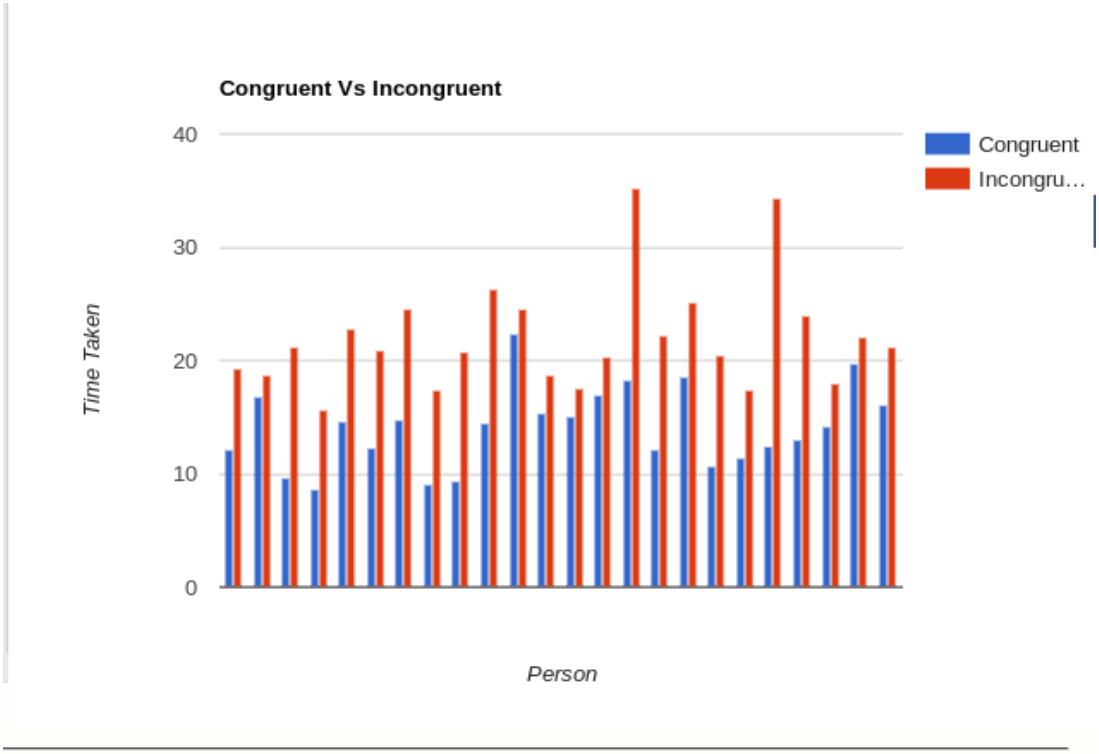
Central Tendency:
Mean for Congruent dataset: 14.051125
Mean for Incongruent dataset: 22.05326087

Median for Congruent dataset: 14.3565
Median for Incongruent dataset: 21.0175

Variablity:
Variance for Congruent dataset: 12.66902907
Variance for Incongruent dataset: 23.01321226

SD for Congruent dataset: 3.559357958
SD for Incongruent dataset: 4.797208799

4)



As we can see that time taken by people in in-congruent data set is way more than people in congruent data set.

5)

Statistical Test:

Alpha: 0.05 or Confidence level: 95%
Degree of freedom: 23
T-Critical: +2.069 and -2.069

Point estimate: -7.964791667
sample deviation: 4.86482691

T-statistical: -8.020706945

Confidence Interval: -10.01936791,-5.91021542

Since T-statistical is past the critical region we reject the hypothesis.

I have played an android game on stroop effect. Thus I was aware of the outcome.