**Question1.2**

**Test whether one of the web forms has faster responses. Explain what you did and why and what the underlying experimental design was. (2+2+2 pts.)**

We’re following Fisher’s methodology to reject or not the null hypothesis based on whether er not the outcome of a statistical test is exceptional

1 Null hypothesis

The mean response times for both web forms are equal.

2 Test statistics

In the given dataset the assumptions required for using the t-test are respected. The values of each group are normally distributed (**I used wilkinson’s test to confirm**) and the variances are approximately equal.

3 Result

t(18)= -1.04, p=0.30

4 Conclusion

With a p-value of 0.30, which exceeds the chosen significance level of 0.05, we fail to reject the null hypothesis. Thus, we make no conclusion.

The data file contains the results of comparing two deep learning architectures that were applied to tasks of different levels of complexity (between 100 and 300) and whether the learning managed to converge.

* Investigate whether one of the two architectures performs better (i.e. converges for more complex tasks). Explain what you did and why. (5pts.)
* At which level of complexity does each architecture converges in 50% of cases? Explain how you calculated this. (5 pts.)

**Question 2**

**The data file contains the results of comparing two deep learning architectures that were applied to tasks of different levels of complexity (between 100 and 300) and whether the learning managed to converge.**

* **Investigate whether one of the two architectures performs better (i.e. converges for more complex tasks). Explain what you did and why. (5pts.)**
* **At which level of complexity does each architecture converges in 50% of cases? Explain how you calculated this. (5 pts.)**

**It is always a good idea to make a visualization as a first step. Dividing the dataset in two groups (architecture 1 and architecture 2). And for each dataset dividing the data in bins with steps of 20. We then can make stacked barcharts. we get the following graphs.**

**/\* Show bot graphs \*/  
  
We can also show the true/total ratio for each bin. Then we get following barcharts**

**It looks like architecture 2 performs better in for each complexity.**

**Let’s make it scientific.**

**Question 3.1**

Both variables are ordinal. To help visualise whether there is a correlation between the variables a scatterplot seems suitable. Each point in the plot represents a pair of values whereby the x-value is the realism variable (independent variable), and the y-value is the acceptability value (dependent variable).

/\* GRAPH \*/

We see that there is a quadratic relationship between realism and acceptability.