Report worksheet 1

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Exercise 1: t-test for non-Gaussian distributions

(a) Please refer to Figure **??**.

(b) Please refer to Figure **??**.

(c) Please refer to Figure **??**.

(d) Please refer to Figure **??**.

(e) Please refer to Figure **??**.

Exercise 2: randomization test

Please refer to Figure **??**.

Exercise 3: raster plots

Please refer to Figure **??**.

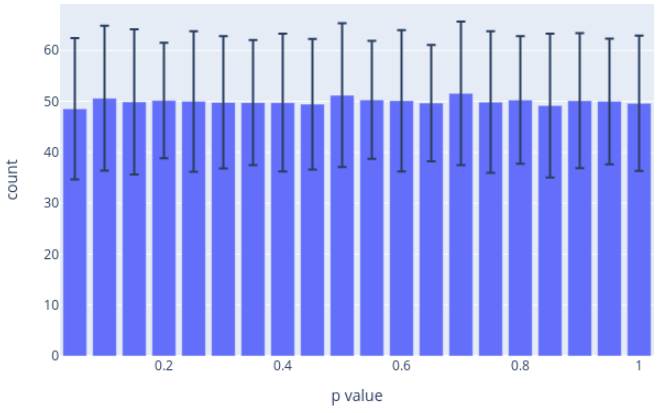
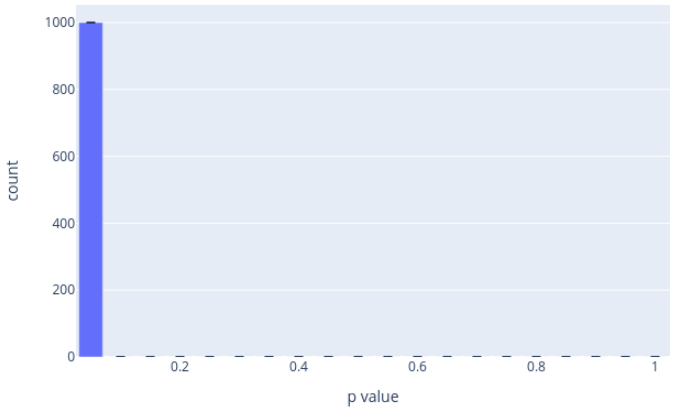
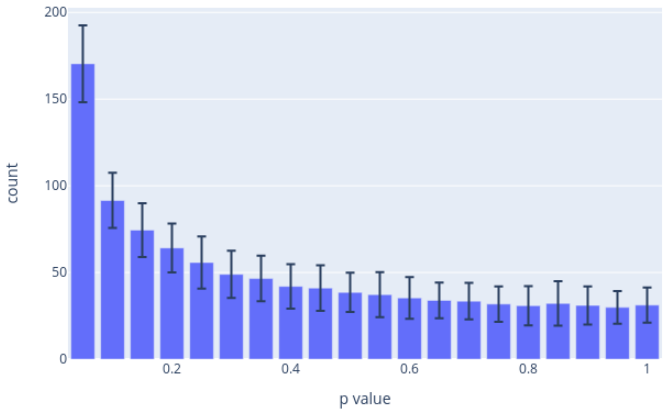


Figure 1: Exercise 1a. Histogram of p-values of 1.000 t-tests evaluating if the mean of 10.000 samples from a $\mathcal{N}(0, 1)$ is equal to zero. Click on the figure to see its interactive version. The code to generate this figure appears here and the parameters used for this script appear here.



(a) Histogram of p-values of 1.000 t-tests evaluating if the mean of 10.000 samples from a $\mathcal{N}(0.1, 1)$ is equal to zero. Click on the figure to see its interactive version.



(b) Histogram of p-values of 1.000 t-tests evaluating if the mean of 10.000 samples from a $\mathcal{N}(0.01, 1)$ is equal to zero. Click on the figure to see its interactive version.

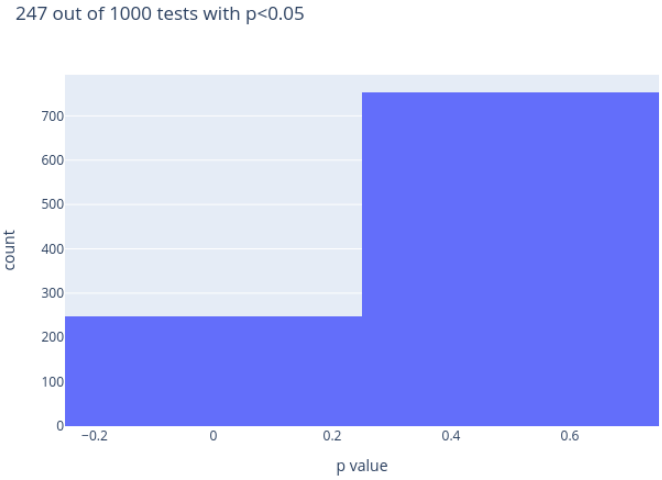
Figure 2: Exercise 1b. The code to generate this figure appears here and the parameters used for this script appear here.

(a) Histogram of p-values of 1.000 t-tests evaluating if the mean of 10.000 samples from a standard Cauchy distribution is equal to zero. Click on the figure to see its interactive version.

(b) Histogram of p-values of 1.000 t-tests evaluating if the mean of 3 samples from a standard Cauchy distribution is equal to zero. Click on the figure to see its interactive version.

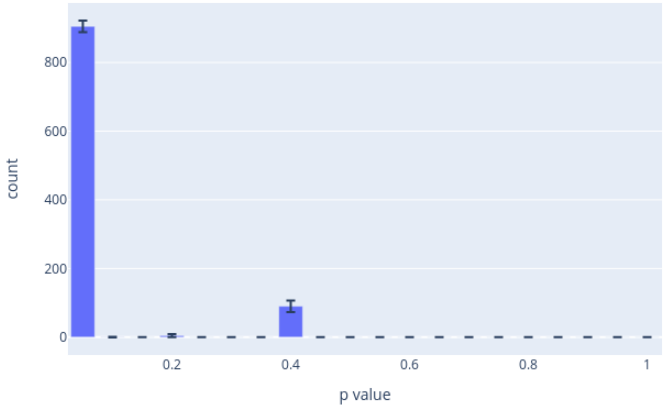
Figure 3: Exercise 1c. The code to generate this figure appears here and the parameters used for this script appear here.

(a) Histogram of p-values of 1.000 t-tests evaluating if the mean of 10.000 samples from a Rademacher distribution is equal to zero. Click on the figure to see its interactive version.

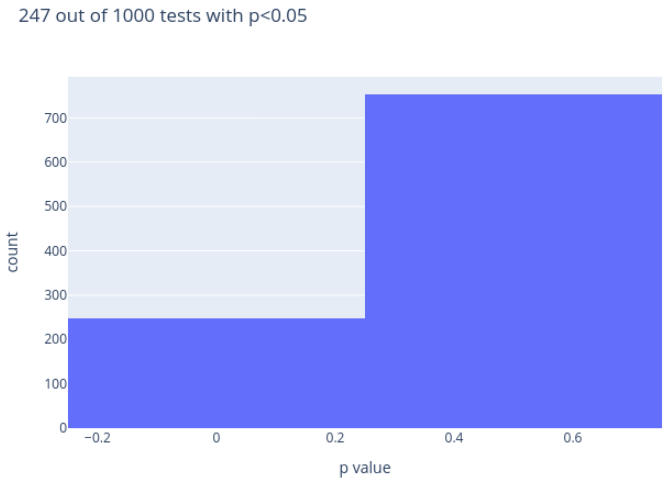


(b) Histogram of p-values of 1.000 t-tests evaluating if the mean of 3 samples from a Rademacher distribution is equal to zero. Click on the figure to see its interactive version.

Figure 4: Exercise 1d. The code to generate this figure appears here and the parameters used for this script appear here.

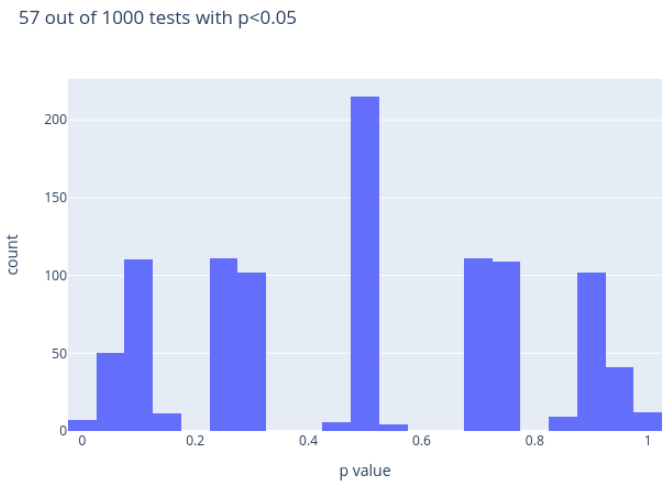


(a) Histogram of p-values of 1.000 t-tests evaluating if the mean of 100 samples from the very skewed distribution distribution is equal to 0.001. Click on the figure to see its interactive version.



(b) Histogram of p-values of 1.000 t-tests evaluating if the mean of 3 samples from the very skewed distribution is equal to zero. Click on the figure to see its interactive version.

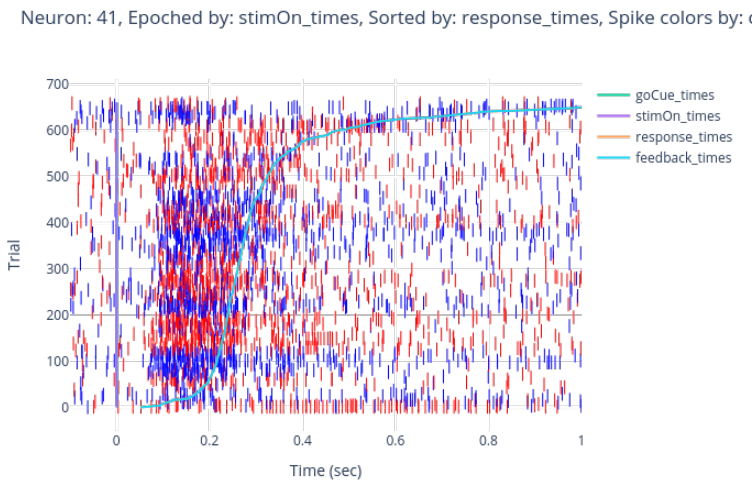
Figure 5: Exercise 1e. The code to generate this figure appears here and the parameters used for this script appear here.



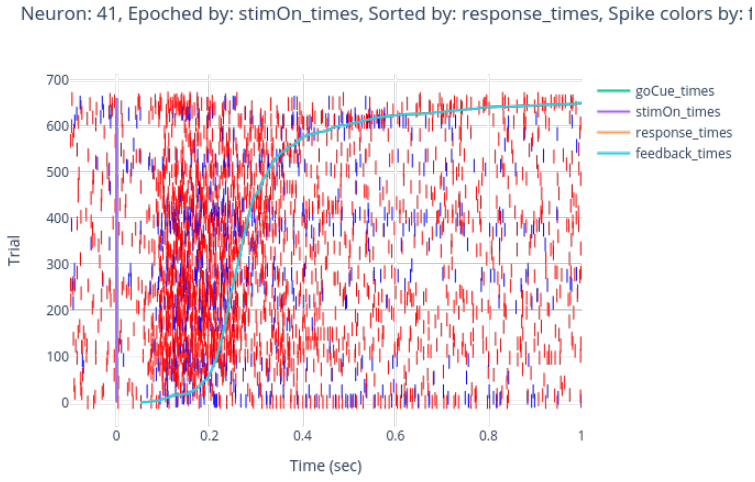
(a) Histogram of p-values of 1.000 randomization tests evaluating if the mean of 10 samples from the Rademacher distribution distribution is equal to 0.0. Click on the figure to see its interactive version.

(b) Histogram of p-values of 1.000 randomization tests evaluating if the mean of 10 samples from the skewed distribution is equal to zero. Click on the figure to see its interactive version.

Figure 6: Exercise 2. The code to generate this figure appears here and the parameters used for this script appear here.



(a) Rasterplot of neuron 41 aligned to `stimOn_times`, sorted by `response_times` and colored by



(b) Rasterplot of neuron 41 aligned to `stimOn_times`, sorted by `response_times` and colored by `feedbackType`.

Figure 7: Exercise 3. The code to generate this figure appears here and the parameters used for this script appear here.