Homework 1

Write your name here

03 April, 2022

Intro Example

Background: The data set used here comes from an experiment design to measure the "stroop" effect, in other words, to measure the effect of incongruent visual information on response times. In the control condition participants looked at a colored square on a screen and had to repeat the color out loud. On the incongruent condition participants would look at a color's name on the screen printed on a different color. For example, they would see the word "green" printed on a blue font, participants had to repeat the word regardless of the font color (say "green"). We recorded the total number of second that it took for participants to complete 20 trials.

```
# In this chunk you should write (a.k.a. copy from the slides) the code needed
# to load the data for the example. IMPORTANT: Remember to delete the comments
```

1. What is the average response time for participants in the **control** condition?

```
# In this code chunk you can write the function (or functions) that you need to
# calculate the mean of the CONTROL condition, remember to save the result
# in a new variable so that you can easily print it in text. Remember to delete
# the comments inside the code chunks.
```

ANS: [WRITE YOUR ANSWER HERE]

2. What is the average response time for participants on the **incongruent** condition?

```
# In this code chunk you can write the function (or functions) that you need to
# calculate the mean of the INCONGRUENT condition, remember to save the result
# in a new variable so that you can easily insert it in text. Remember to delete
# the comments inside the code chunks.
```

ANS: [WRITE YOUR ANSWER HERE]

3. Which condition has more variation on response times, the control or the incongruent condition?

```
# In this code chink you can write the functions that you need to use in order
# to calculate the variation of both conditions. Remember to assign each value
# to a new variable so that you can use it in text.
```

ANS: [WRITE YOUR ANSWER HERE]

4. Create a histogram for the response times of each condition (1 per group). Describe what you see in the histograms in as few words as possible.

```
# Use this code chunk to make the histograms of the IQ test scores of each group
# it would be easier to compare results if you add transparency to the color!
```

ANS: [WRITE YOUR ANSWER HERE]

5. On average how much more time did it take participants on the incongruent condition to read the color names printed on the screen? (**Note that we will always give you the data on a format that**

is easier to use)

```
# In this chunk you should write (a.k.a. copy from the slides) the code needed
# to load the data for the second part of the example.
```

ANS: [WRITE YOUR ANSWER HERE]

6. How much variation is there on the difference in response times between conditions?

ANS: [WRITE YOUR ANSWER HERE]

7. Create a boxplot of the difference between the two conditions.