

Performing a t-test for One Mean

```
t_test(x = <NAME OF DATASET>,
      response = <NAME OF VARIABLE>,
      conf_int = TRUE,
      conf_level = 0.90,
      alternative = "two-sided",
      mu = <VALUE OF NULL HYPOTHESIS FOR MU>)
```

Note: If you want a 95% confidence interval, you change `conf_level` to 0.95

Note: If you are doing a one-sided hypothesis test, you change `alternative` to either “greater” or “less”

Obtaining 1000 Bootstrap Means

```
bootstrap <- <NAME OF DATASET> %>%
  specify(response = <NAME OF VARIABLE>) %>%
  generate(reps = 1000, type = "bootstrap") %>%
  calculate(stat = "mean")
```

Plotting the Bootstrap Distribution

```
visualize(data = bootstrap,
          method = "simulation")
```

Note: This step **must** come after you have obtained the bootstrap means!

Obtaining the Sample Mean

```
obs_mean <- <NAME OF DATASET> %>%
  specify(response = <NAME OF VARIABLE>) %>%
  calculate(stat = "mean")
```

Note: This step **must** be done **before** you find your confidence interval!

Obtaining a Confidence Interval from a Bootstrap Distribution

```
get_confidence_interval(x = bootstrap,
                        level = 0.95,
                        type = "percentile",
                        point_estimate = obs_mean)
```

Note: This step **must** come after you have obtained the bootstrap means **and** the observed mean!

Note: If you want a 90% confidence interval, you change `level` to 0.90

Scatterplot

```
ggplot(data = <NAME OF DATASET>,  
       mapping = aes(x = <NAME OF X-VARIABLE>,  
                     y = <NAME OF Y-VARIABLE>)  
       ) +  
geom_point() +  
labs(x = "<TITLE FOR THE X-AXIS>",  
     y = "<TITLE FOR THE Y-AXIS>")
```

Scatterplot with Regression Line

```
ggplot(data = <NAME OF DATASET>,  
       mapping = aes(x = <NAME OF X-VARIABLE>,  
                     y = <NAME OF Y-VARIABLE>)  
       ) +  
geom_point() +  
geom_smooth(method = "lm") +  
labs(x = "<TITLE FOR THE X-AXIS>",  
     y = "<TITLE FOR THE Y-AXIS>")
```

Fitting a Linear Regression

```
model <- lm(<NAME OF Y-VARIABLE> ~ <NAME OF X-VARIABLE>,  
           data = <NAME OF DATASET>)
```

Note: The ~ is necessary! It has to be there!

Obtaining Coefficient Table

```
get_regression_table(model,  
                    conf_level = 0.95)
```

Note: You need to have fit the linear regression **before** this step!

Note: If you want a 90% confidence interval, you change `conf_level` to 0.90

Obtaining 1000 Bootstrap Slopes

```
bootstrap <- <NAME OF DATASET> %>%  
  specify(response = <NAME OF Y-VARIABLE>,  
          explanatory = <NAME OF X-VARIABLE>) %>%  
  generate(reps = 1000, type = "bootstrap") %>%  
  calculate(stat = "slope")
```

Plotting the Bootstrap Distribution

```
visualize(data = bootstrap,  
          method = "simulation")
```

***Note:** This is **the same** as plotting the bootstrap for one mean!*

Obtaining the Sample Slope

```
obs_mean <- <NAME OF DATASET> %>%  
  specify(response = <NAME OF Y-VARIABLE>,  
           explanatory = <NAME OF X-VARIABLE>) %>%  
  calculate(stat = "mean")
```

***Note:** This step **must** be done **before** you find your confidence interval!*

Obtaining a Confidence Interval from a Bootstrap Distribution

```
get_confidence_interval(x = bootstrap,  
                        level = 0.95,  
                        type = "percentile",  
                        point_estimate = obs_mean)
```

***Note:** This is **the same** as how you found a confidence interval for one mean!*