6.4.3

Find the Correlation Between Latitude and Percent Humidity

You have a few more plots with regression lines to create. It's easier to make a mistake when you are copying and pasting code over and over, so stay focused! Now you'll create the linear equation and scatter plot of the latitude and percent humidity for the Northern and Southern Hemispheres.

Using the `plot_linear_regression` function, we can generate the regression lines on the percent humidity for the Northern and Southern Hemispheres.

Perform Linear Regression on the Percent Humidity for the Northern Hemisphere

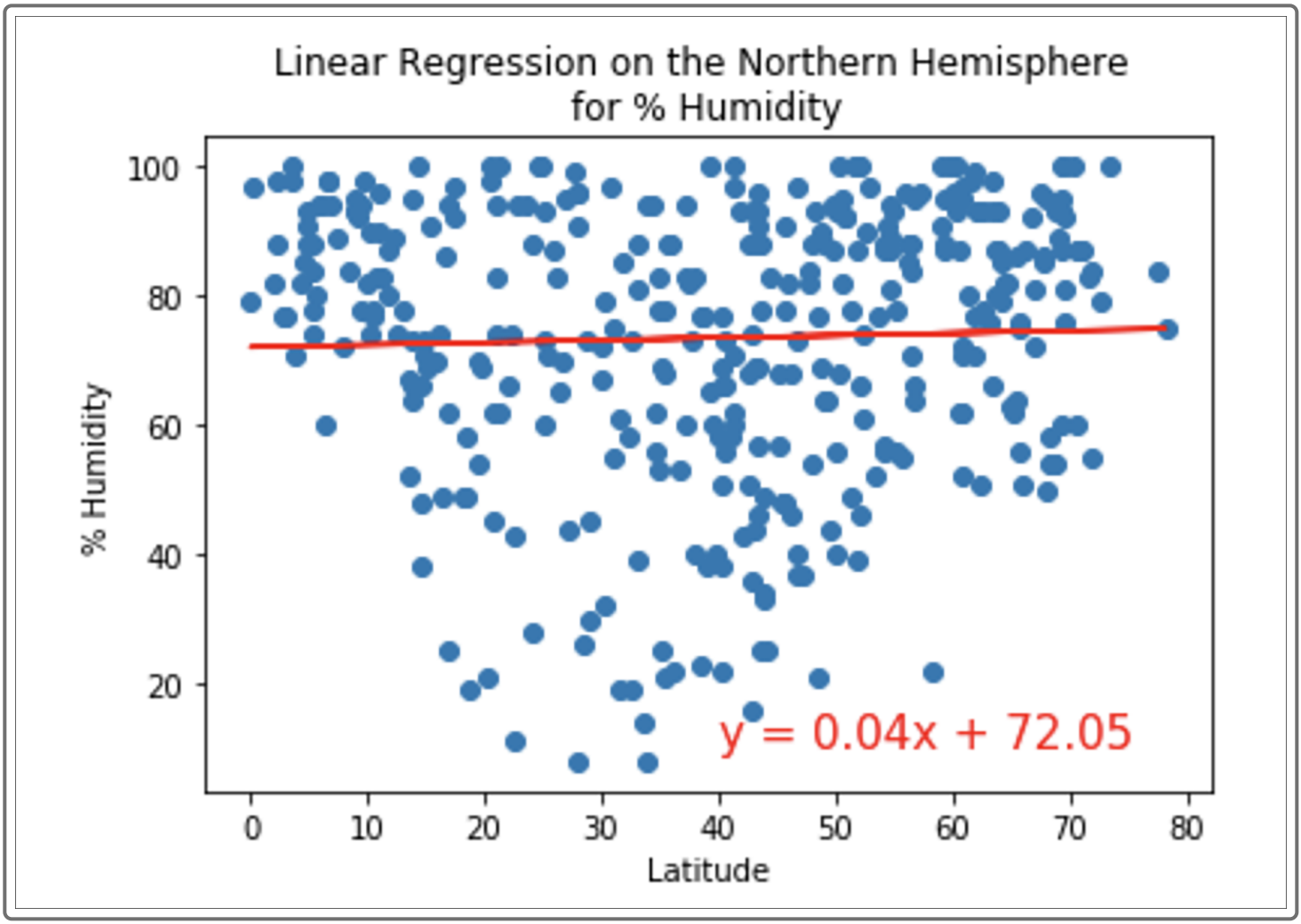
To perform the linear regression on the percent humidity for the Northern Hemisphere, set the x-value equal to the latitude column and y-value equal to the Humidity column from the `northern_hemi_df` DataFrame.

Call the `plot_linear_regression` function with the x- and y-values, and edit the `title`, `y_label`, and `text_coordinates` for the percent humidity scatter plot.

Add the code to a new cell and run it to generate the linear regression and plot the data.

```
# Linear regression on the Northern Hemisphere
x_values = northern_hemi_df["Lat"]
y_values = northern_hemi_df["Humidity"]
# Call the function.
plot_linear_regression(x_values, y_values,
                       'Linear Regression on the Northern Hemisphere \
                        for % Humidity', '% Humidity',(40,10))
```

The scatter plot with the regression line and equation should look like the following.



Perform Linear Regression on the Percent Humidity for the Southern Hemisphere

Next, we will perform linear regression on the percent humidity and latitudes for the Southern Hemisphere.

For our linear regression line and plot of the percent humidity and latitudes for the Southern Hemisphere, set the x-value equal to the latitude column and y-value equal to the humidity column from the `southern_hemi_df` DataFrame.

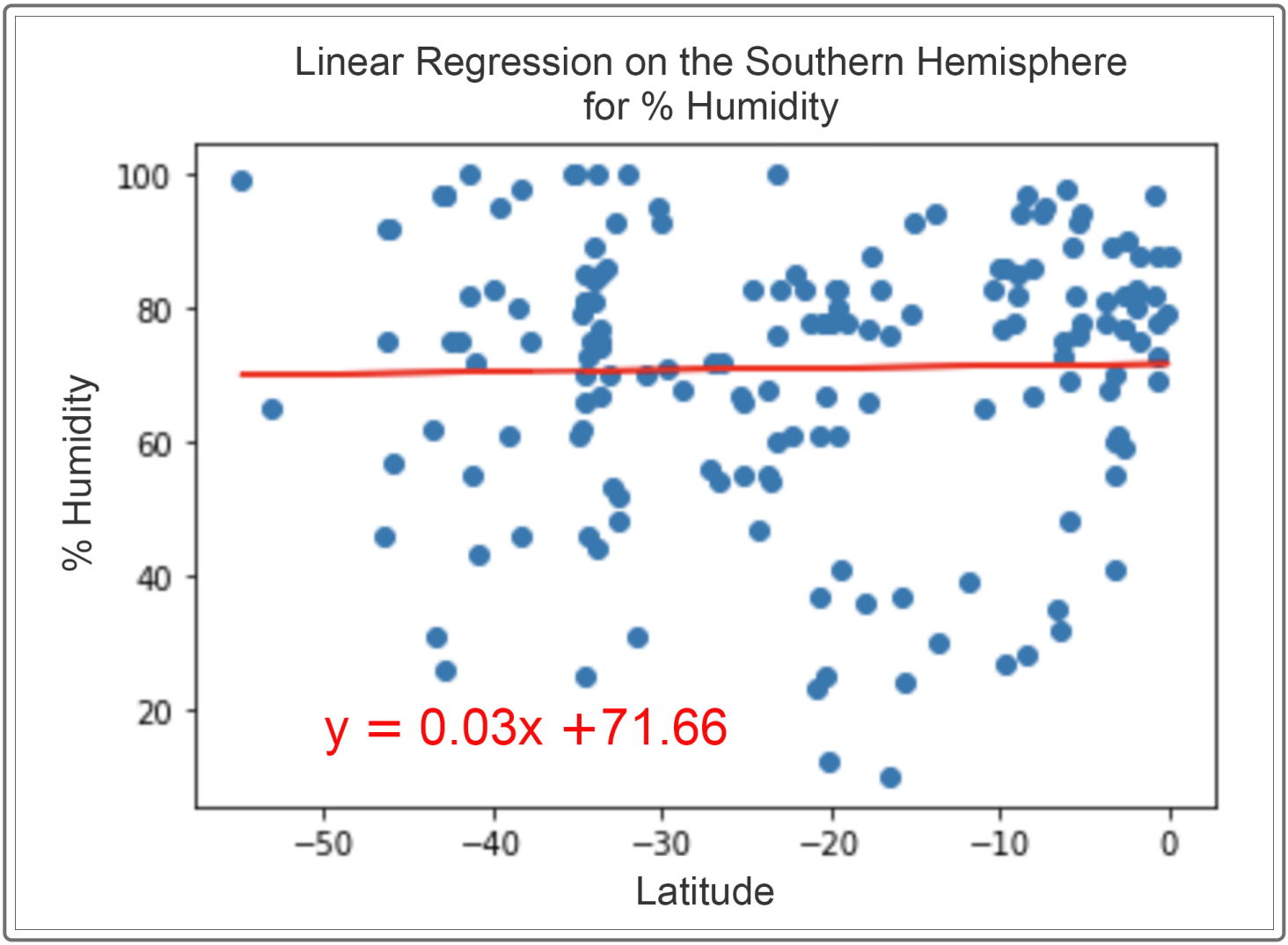
Call the **`plot_linear_regression`** function, with the x-and y-values, and edit the `title`, `y_label`, and `text_coordinates` for the percent humidity scatter plot.

Add the code to a new cell and run it to generate the linear regression and plot the data.

```
# Linear regression on the Southern Hemisphere
x_values = southern_hemi_df["Lat"]
y_values = southern_hemi_df["Humidity"]
# Call the function.
plot_linear_regression(x_values, y_values,
```

```
                'Linear Regression on the Southern Hemisphere \
                 for % Humidity', '% Humidity',(-50,15))
```

The scatter plot with the regression line and equation should look like the following.



FINDING

The correlation between the latitude and percent humidity is very low because the r-value is less than 0.04 for the Northern and Southern Hemispheres for the plots shown here. This means that percent humidity is unpredictable due to changing weather patterns that can increase or decrease percent humidity. Check the r-values for your plots.