Activity 5 – Practical Application of Visualized Data

Please print this paper and keep it for reference purposes. It will be signed by the professor in charge to mark its completion and record.

Group Name: _____ Date: _____

Group Members:

Case Study:

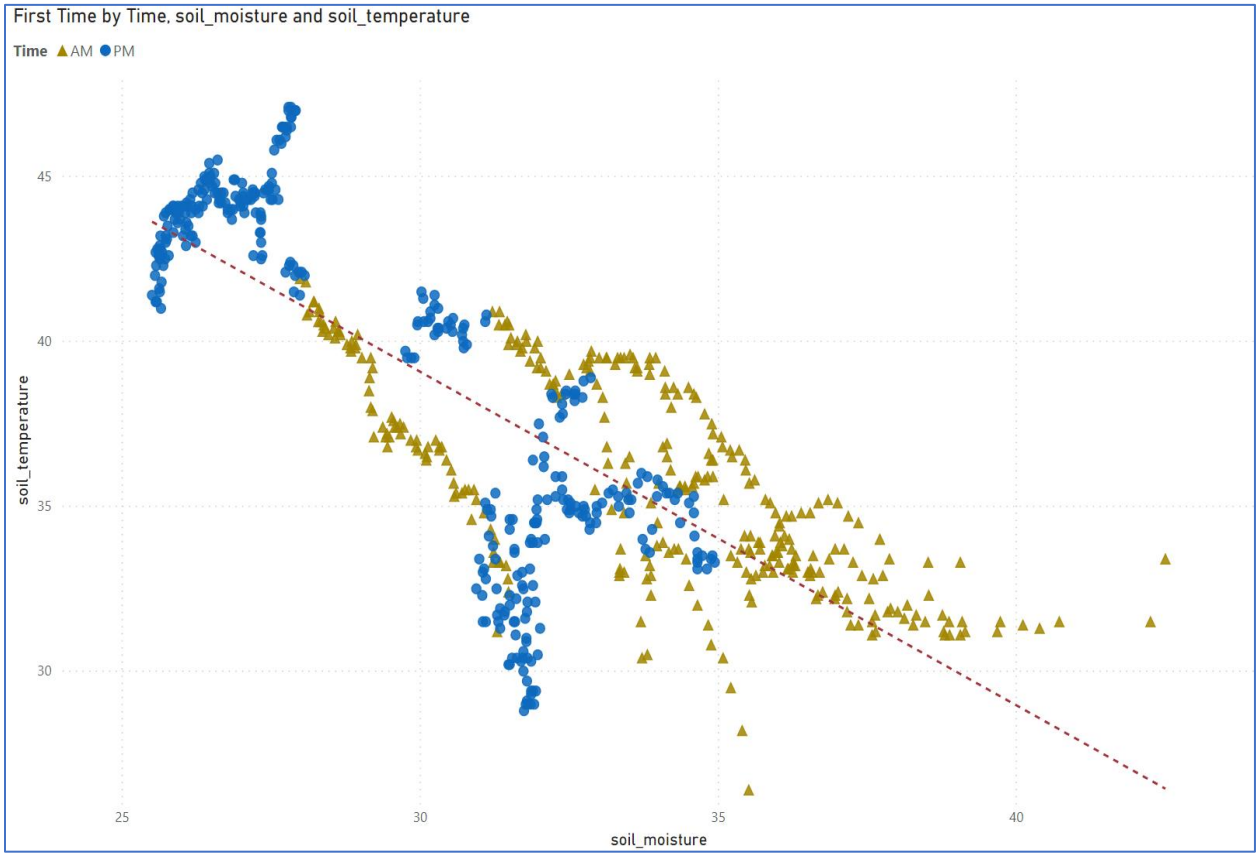
In 2017, a study was conducted to determine if the soil in a certain area is fit for constructing high rise buildings. To do this, certain engineers recorded the temperature of the soil and its moisture index. Soil temperature refers to the average temperature of the soil measured in Celsius; while the soil moisture refers to the amount of water a soil can absorb per cubic meter.

The record can be found using the link:
https://drive.google.com/file/d/1j5wmh5WR-6IgcduoUqo1IjZ7UucTAI77/view?usp=sharing

The researcher plotted the soil temperature versus the soil moisture and created the scatterplot seen below.

The yellow triangle plots refer to the records done before 12NN.
The blue dots refer to the records done after 12NN.
The red line refers to the Linear Regression with the following details:

$\mathbf{y} = -1.0132\mathbf{x} + 69.482$ $\mathbf{R^2} = 0.628$

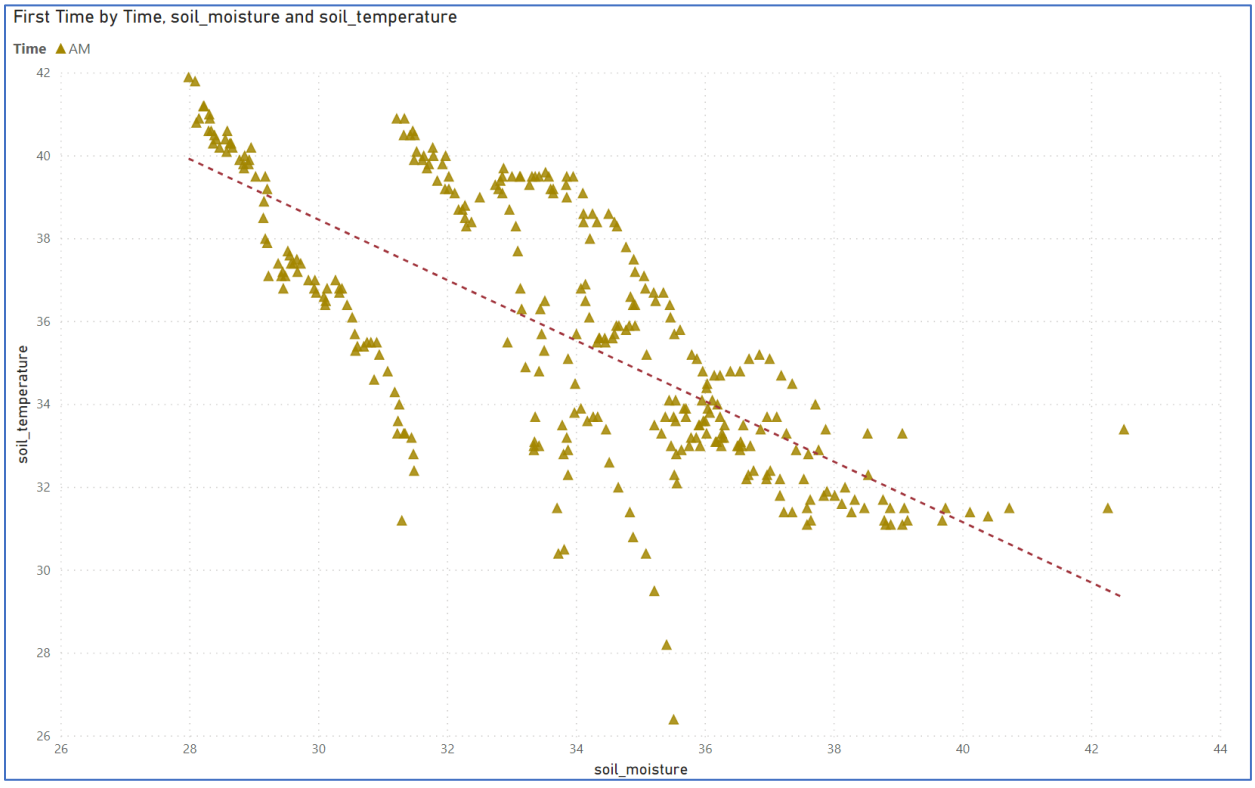


1. From the details given, what are the observations that you can give regarding the information?

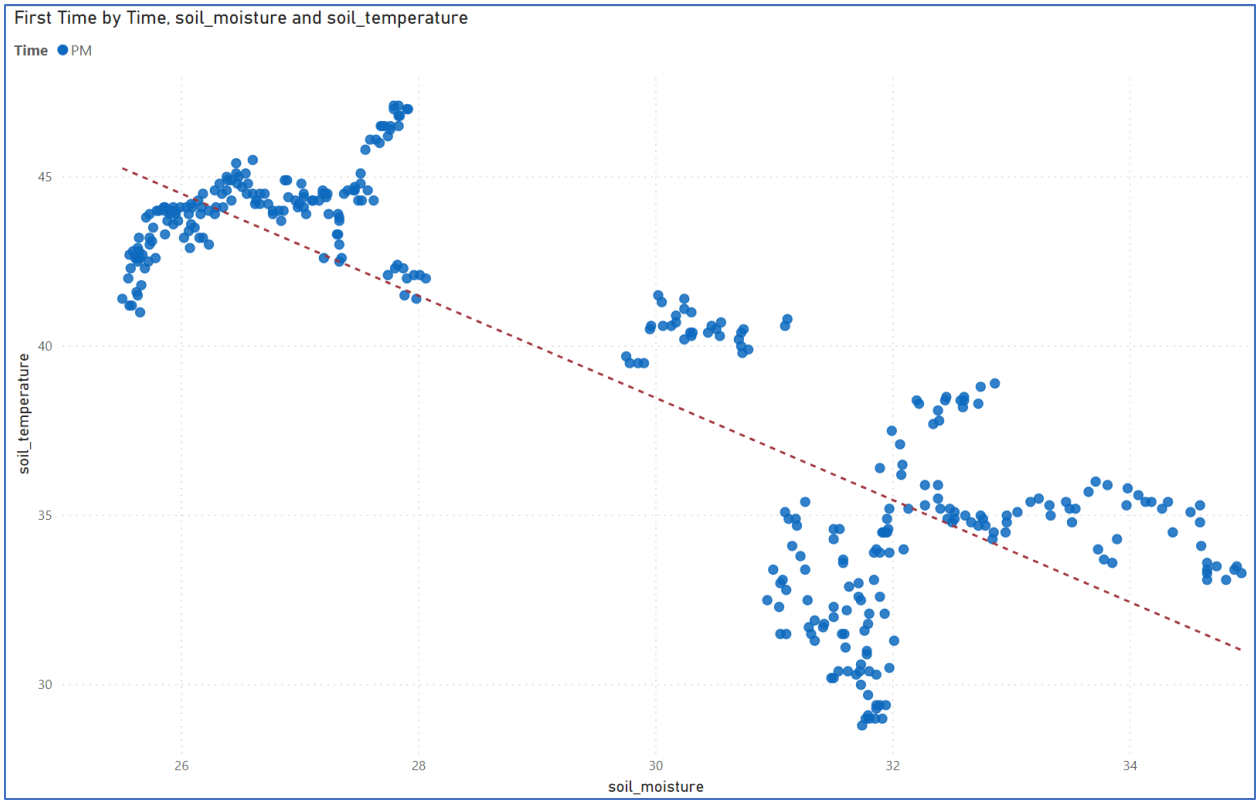
2. Using the R value, describe the strength of the correlation:

3. Describe the Linear Regression Equation:

The researchers drilled through by analyzing only the AM and PM readings separately:



y = -0.7278**x** + 60.278 **R²** = 0.5249



y = -1.5029**x** + 83.576 **R²** = 0.6964

4. From the details given, what are the observations that you can give regarding the information?

5. By comparing the regression lines of the two, describe the differences.

Analysis: