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**Problem2\_writeup**

**Best fit Equation:**

𝑦 = 5112.50987786 ∗ 𝑥\_1 − 201.03452142 ∗ 𝑥\_2 − 207.14864943𝑥\_3 − 1331.51984525

∗ 𝑥\_4 + 217.84446348 ∗ 𝑥\_5 − 68.75157482 ∗ 𝑥\_6 + 500.93838851 ∗ 𝑥\_7

+ 74.3346825 ∗ 𝑥\_8 − 458.9837666 ∗ 𝑥\_9 + 3928.07687554

Chart, line chart

Description automatically generated

This plot was made by plotting the MSE values in function of the Lambda values in which the

MSE values were obtained with the Ridge regression models.

Based on the Lambda values tested, the best lambda value is 14.45439770745928 which yields a

MSE of 1811976.910163041.

**Predicting Price:**

The predicted price for a 0.25 carat, 3 cut, 3 color, 5 clarity, 60 depth, 55 table, 4 x, 3 y, 2 z

diamond is ﻿﻿17906.61$. This value was obtained by substituting the values in the equation above after normalizing them.