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Problem1_writeup

Estimated Functions:
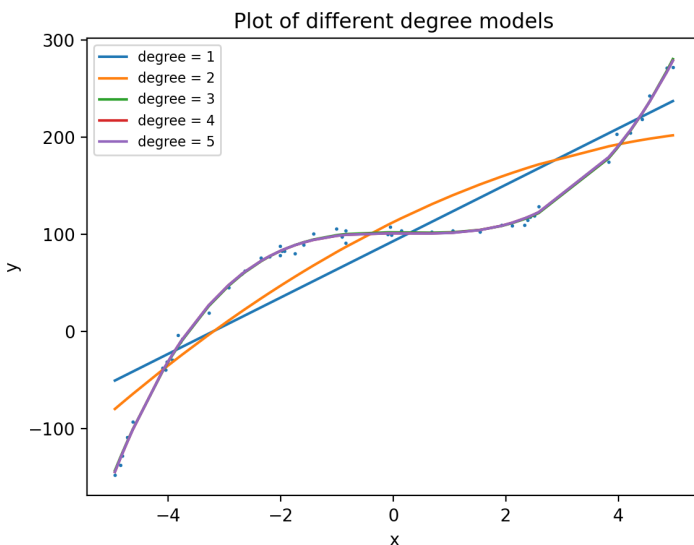
$y1(x) = 29.058674948862464x + 92.7675605305942$

$y2(x) = -2.1110845400980573x^2 + 28.506624873661657x + 112.31481224300524$

$y3(x) = 1.7574366078163475x^3 + -1.4324275373408866x^2 + -0.3307411038617589x + 101.86611054852386$

$y4(x) = -0.01512498350628172x^4 + 1.75412364294206x^3 + -1.082122573409268x^2 + -0.25584397503792644x + 100.91453184399364$

$y5(x) = -0.0004450925988022658x^5 + -0.015422628449238305x^4 + 1.7668192942443472x^3 + -1.0743441638719489x^2 + -0.32274270344078815x + 100.8874870066104$

Data Visualization:

The models of 5th and 4th degree seem to follow the model in the best way that is also proven by the small least squares error.

Predicted value for data point x = 2 is equal to $y5(2) = 109.81817427984632$