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Problem1_wrtieup

Estimated Functions:

$Y_1(x) = 21.99190792x + 92.70531403$

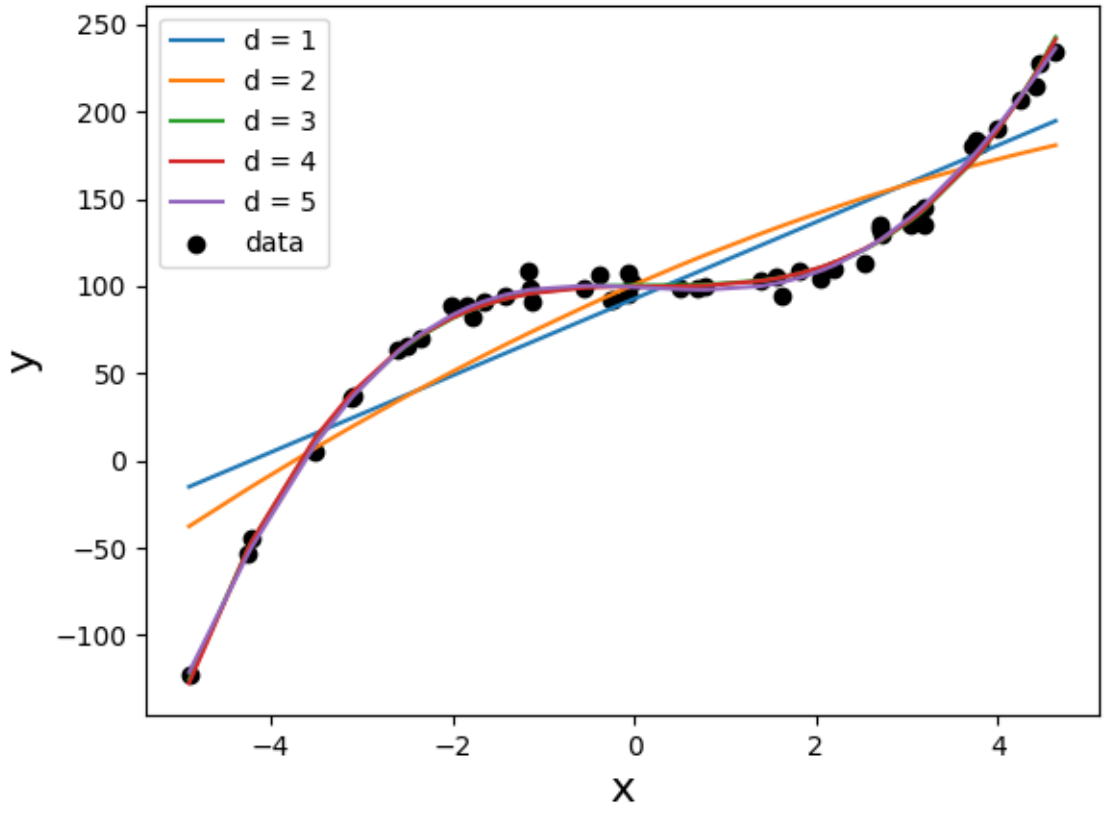
$Y_2(x) = -1.15834068x^2 + 22.60822925x + 100.79905593$

$Y_3(x) = 1.66680649x3 + -1.19334469x^2 + 0.39581103x + 100.43721865$

$Y_4(x) = -.01433655712x^4 + 1.66770942x^3 + .905694362x^2 + 0.339499592x + 99.7620446$

$Y_5(x) = -.0231737037x^5 - 0.0196196620x^4 + 2.27429003x^3 - 0.864397166x^2 - 0.26599605x + 99.4138526$

DATA VISULIZATION: -



The relation follows third degree polynomial. When d is less than 3 the variation is not visible. When we go to high order polynomial terms are negligible . Its negligible as data set is random.

When we have X=2 we will get

$Y_3(x) = 1.66680649x3 *2^3 + -1.19334469x^2 *2^2 + 0.39581103x*2 + 100.43721865 = 109.78991387$