

Report

Problem 1.

accuracy=88.6

No, Accuracy is not a good metric for this example because data is highly biased.

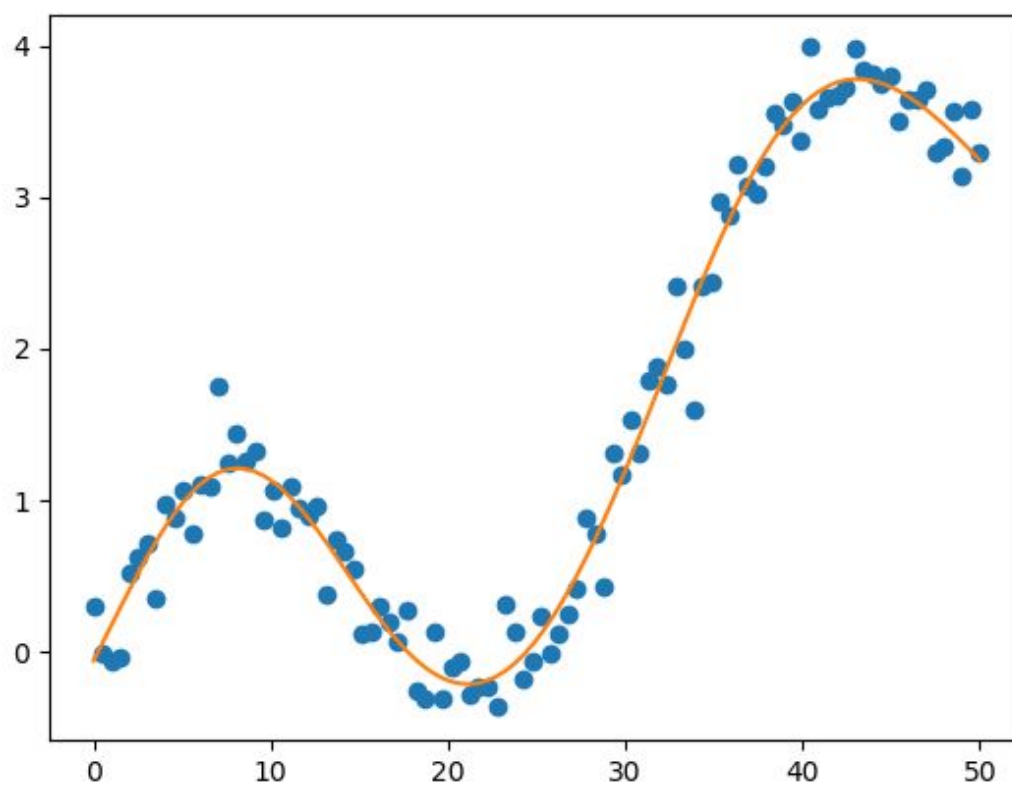
Problem2.

Problem3.

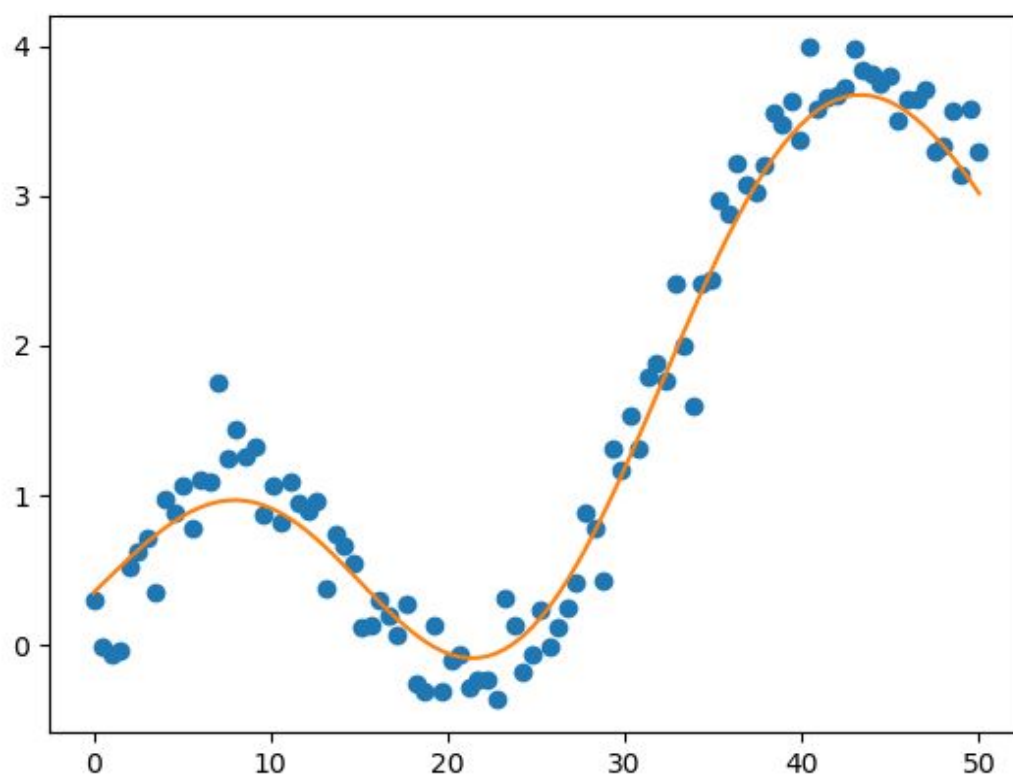
accuracy=95

Problem4.

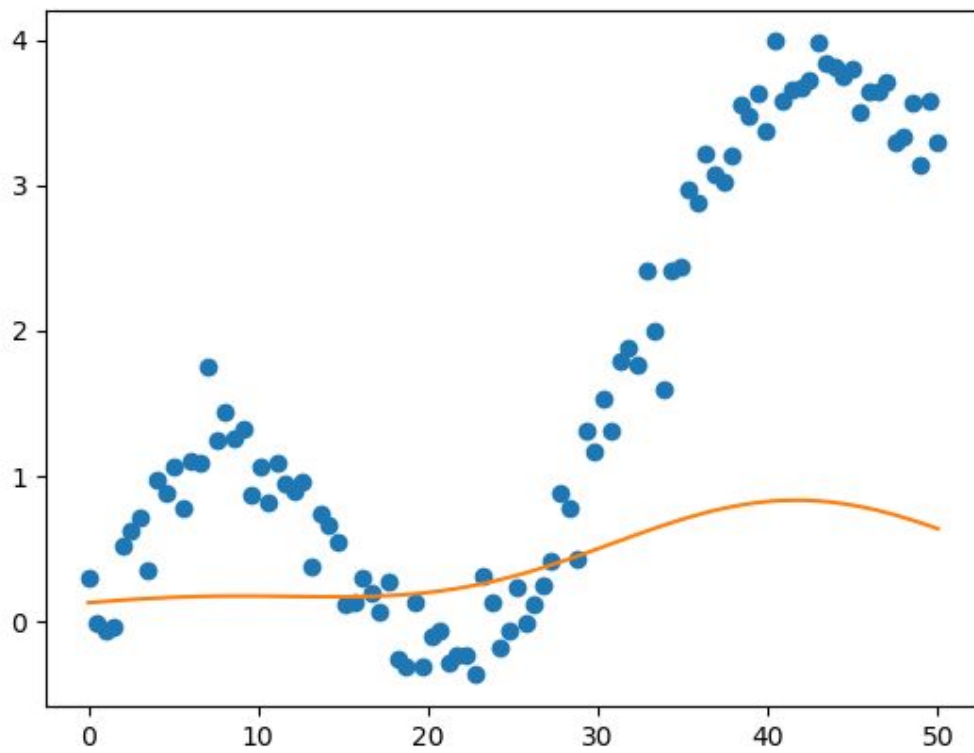
$\lambda=0.01$ and $\sigma=10$



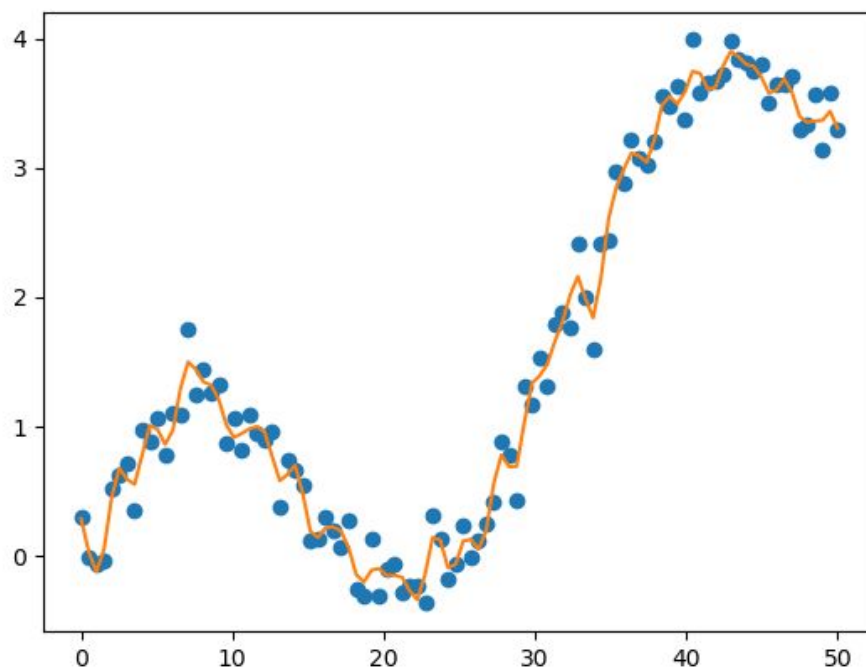
$\lambda=1$ and $\sigma=10$



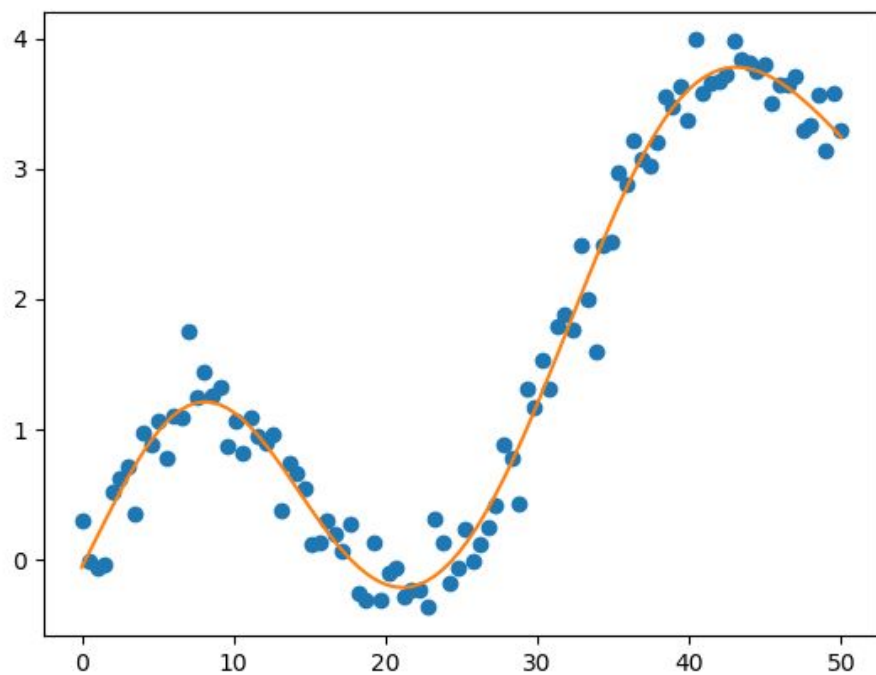
$\lambda=100$ and $\sigma=10$



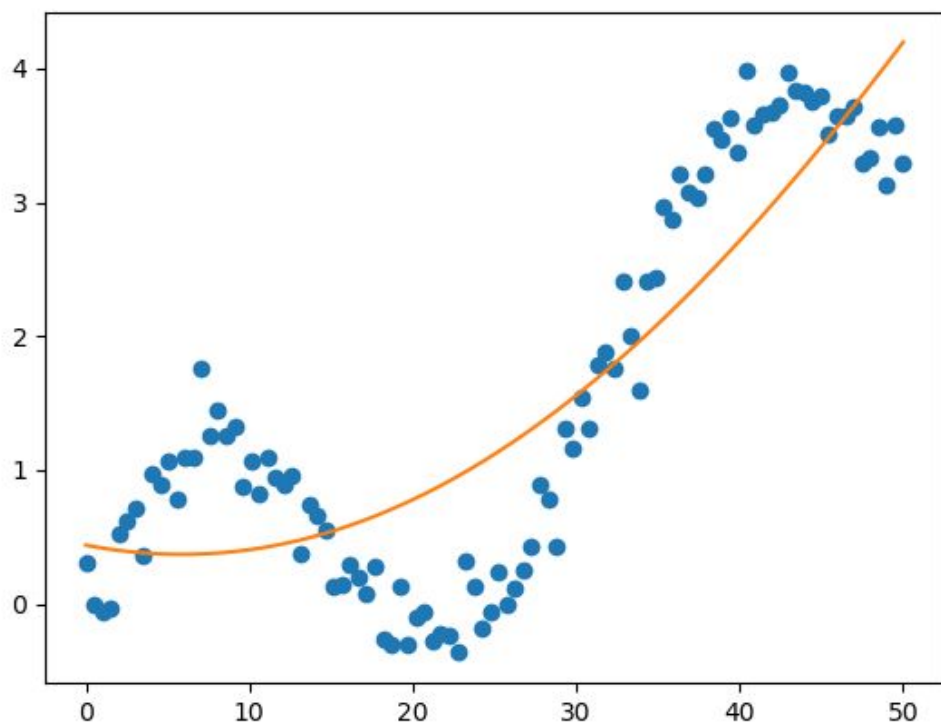
$\lambda=0.01$ and $\sigma=1$



$\lambda=0.01$ and $\sigma=10$



$\lambda=0.01$ and $\sigma=100$



When sigma is less it tries to incorporate it's surrounding more or we can say it try to overfit. With the increase in sigma, the curve becomes smooth.
Since the penalty is directly dependent on lambda, with the increase in lambda we suppress the W which leads to underfitting.

Gaussian kernel is used
Yes we can have closed-form.

