1. $y = \sin(x) + N(\mu, \sigma)$

$w = (x^T x)^{-1} x^T y$

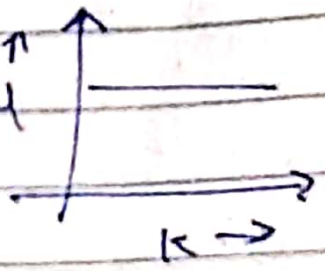
predicted $= w^T x$.

error $=$ | Predicted $-$ Ground-truth |

for Mean :-

The plot should be || to x-axis, because for a given dataset, mean of any point choosen at random from the dataset should be same as of any p2 random points.

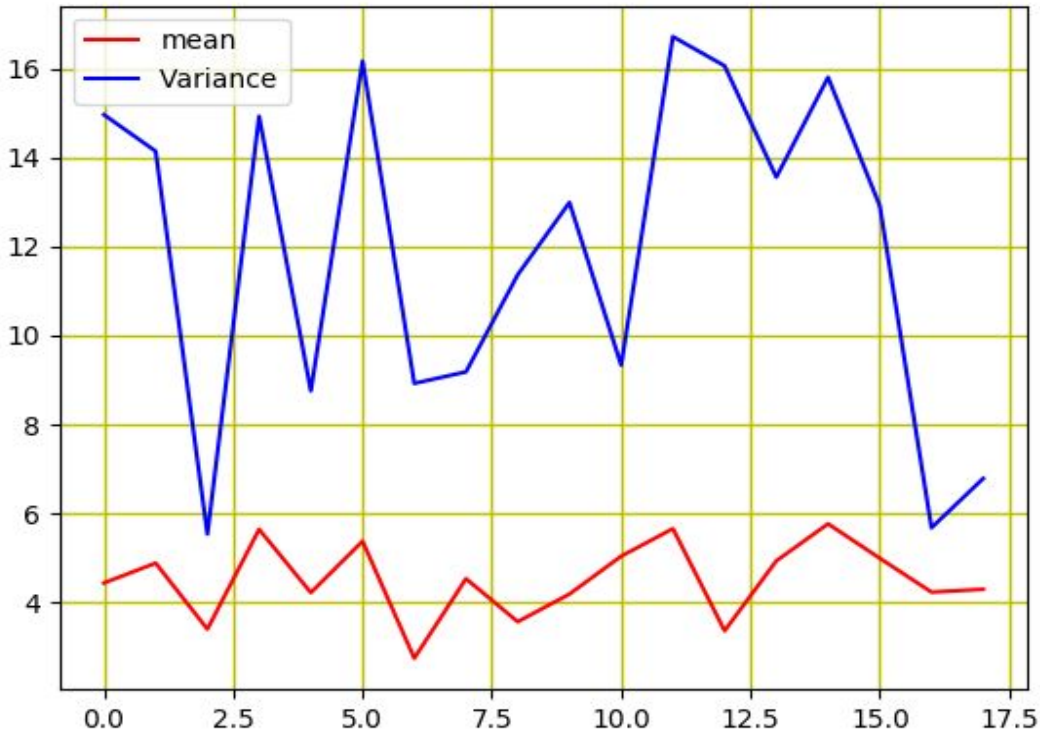
⇒ graph for mean

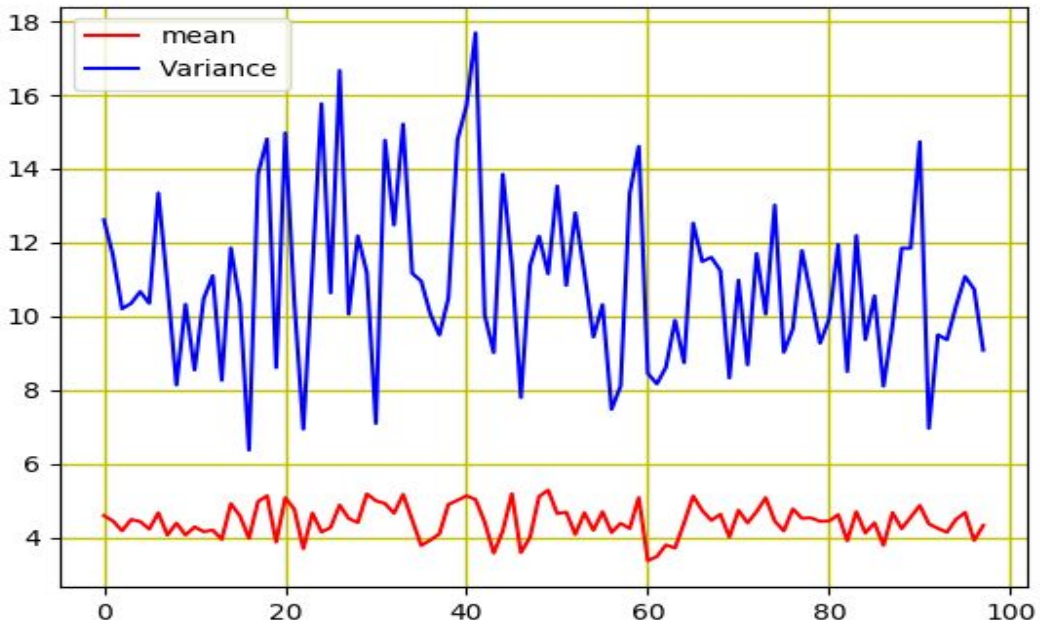


for variance:

The plot for variance vs k should decrease as the value of k increase it will chose points with more varities and if k is smaller variance will be large.

Scanned by CamScanner


mean
Variance
16
14
12
10
8
6
4
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5


mean
Variance
18
16
14
12
10
8
6
4
0
20
40
60
80
100