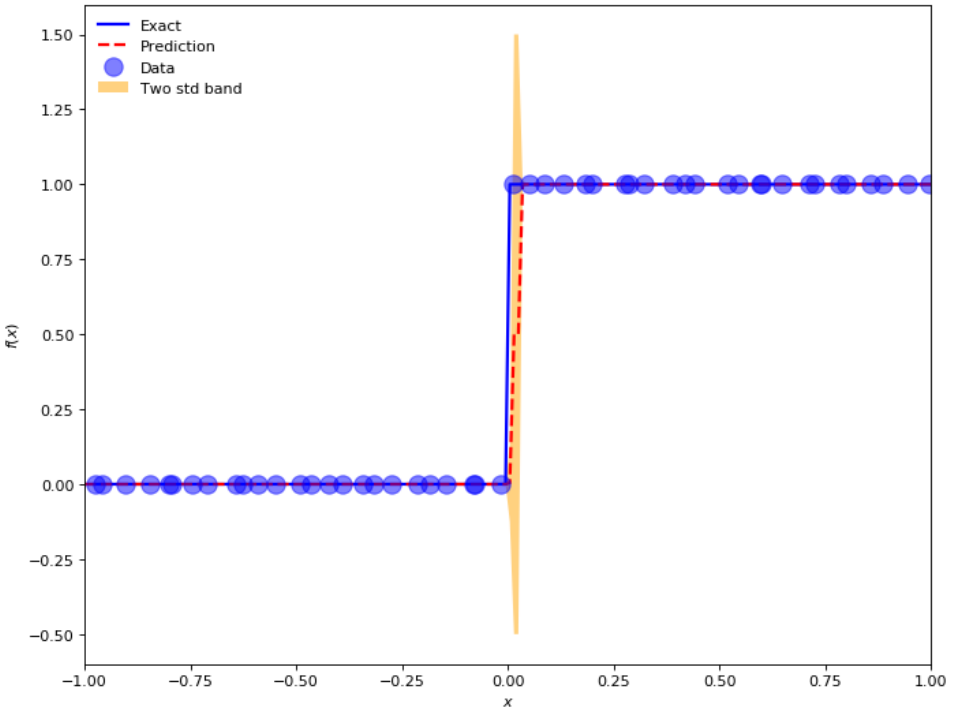
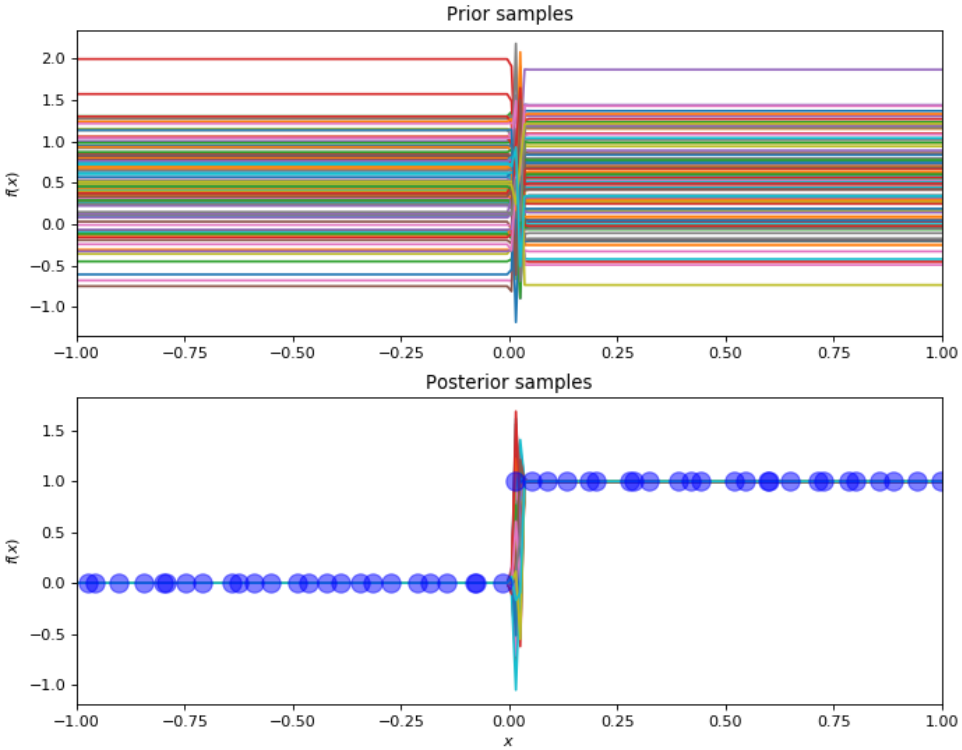
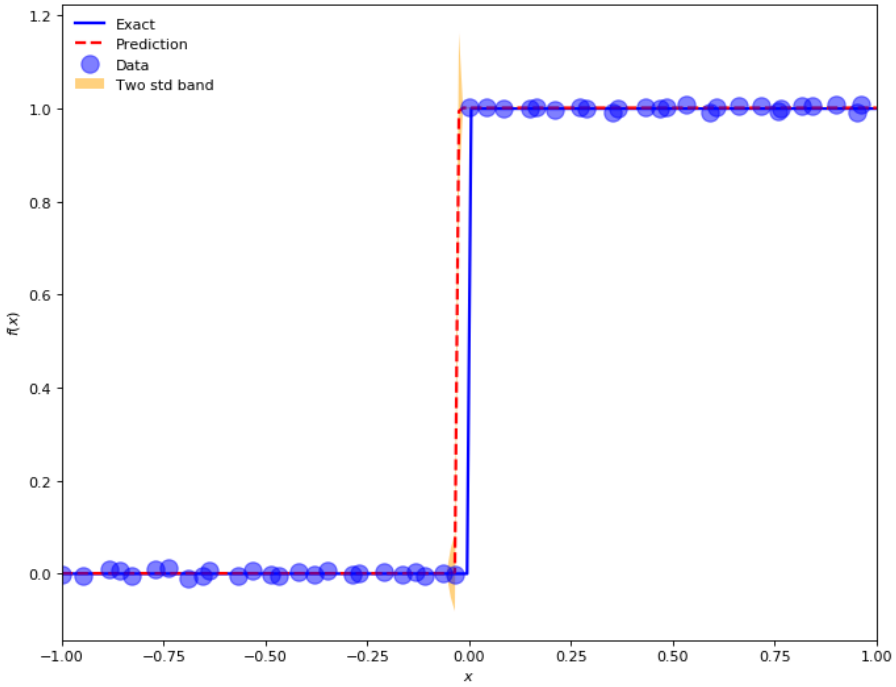
Q1)

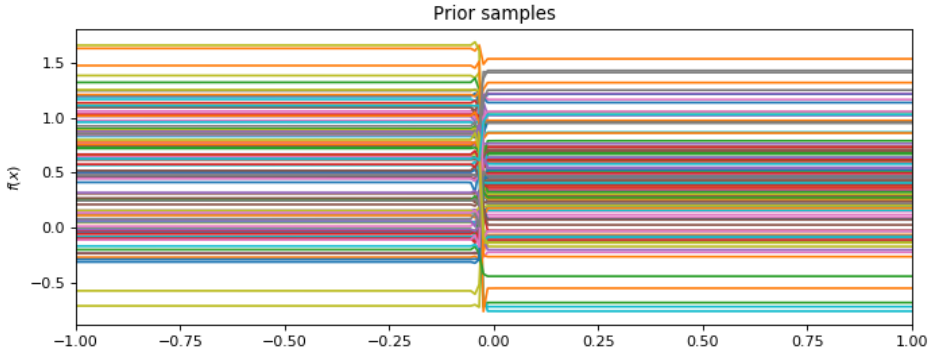
A) Noise-free data

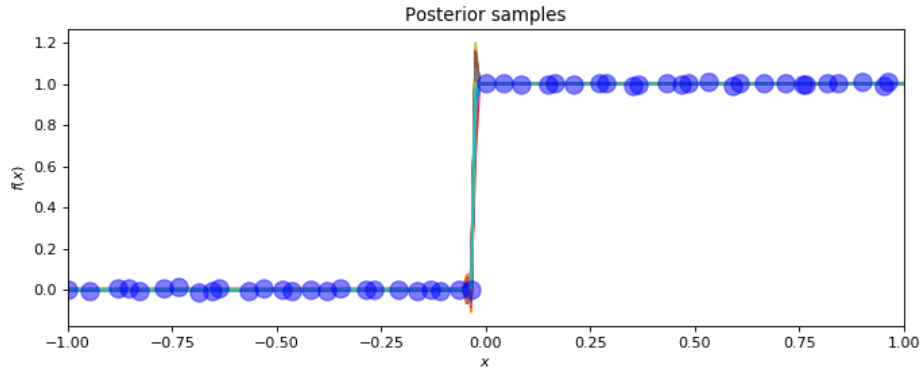




B) Data corrupted with 1% uncorrelated Gaussian noise



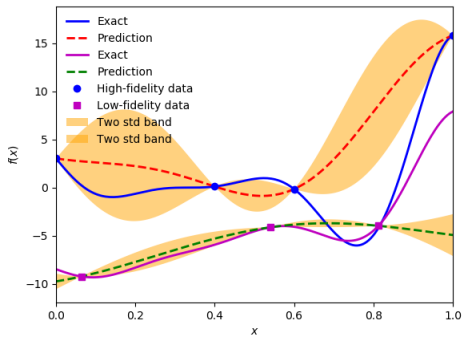




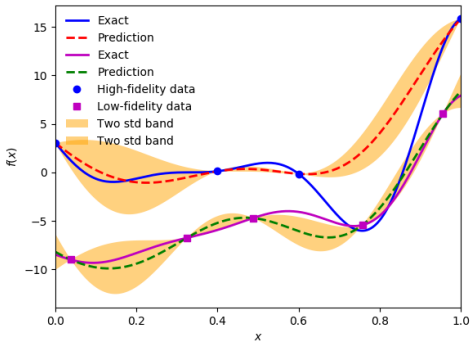
Q2)

L2 norm for different number of low fidelity observations:

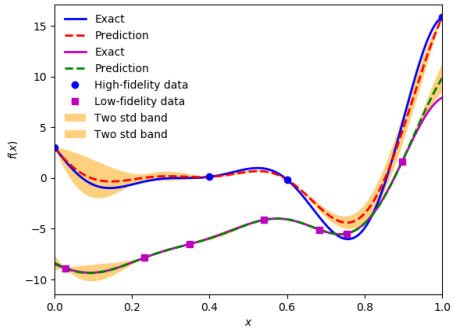
N_L	Relative L2 error high fidelty	Relative L2 error low fidelty
3	1.201352e+00	5.433606e-01
5	7.824730e-01	1.504847e-01
7	1.501878e-01	5.450435e-02
9	5.936741e-02	2.211300e-02
11	3.206133e-02	8.977858e-03
13	5.208984e-03	1.196490e-03



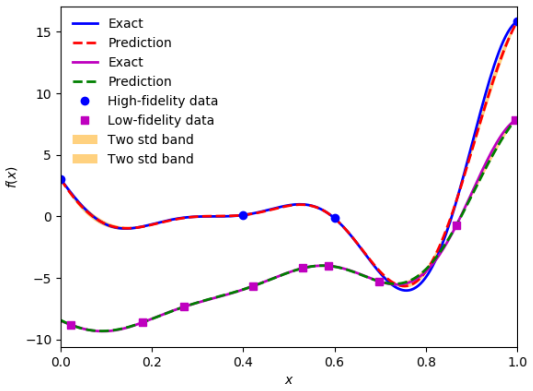
N_L=3



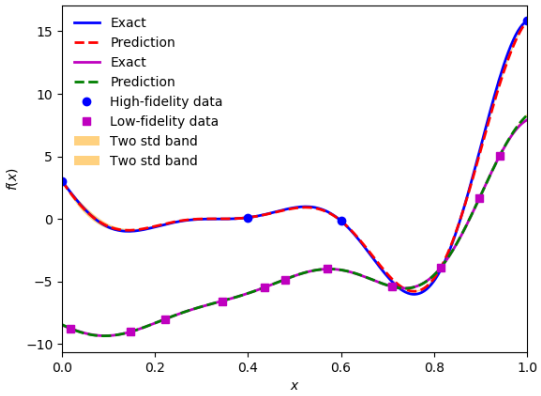
N_L=5



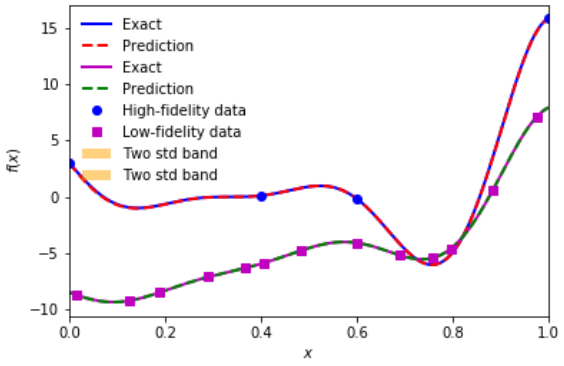
N_L=7



N_L = 9

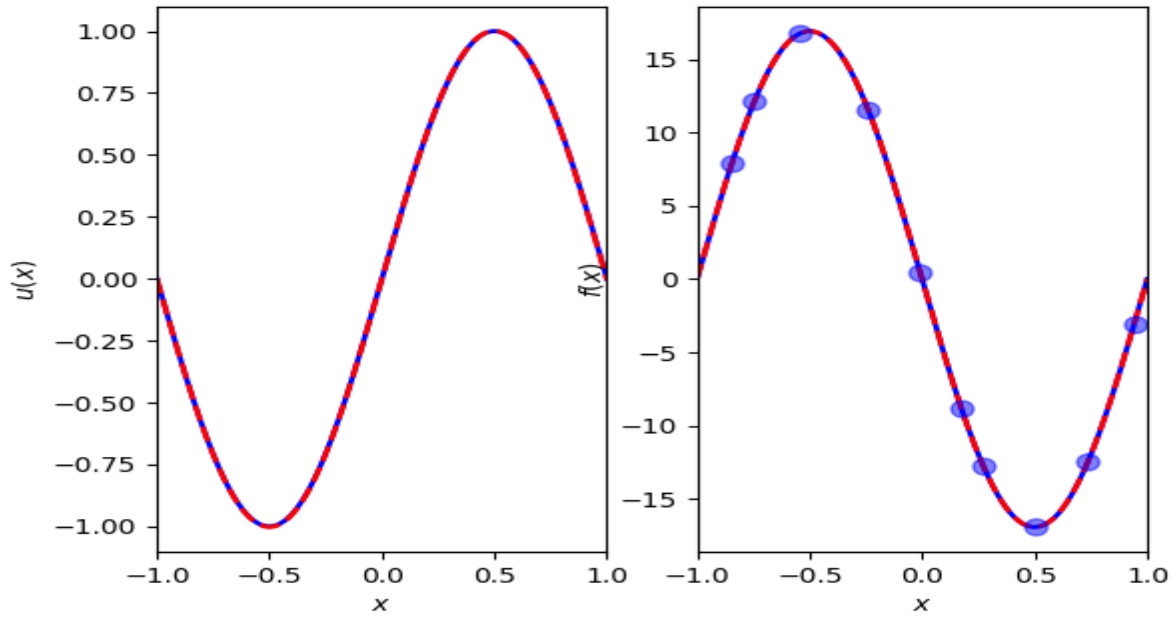


N_L =11



N_L =13

Q3)



Relative L2 error f(x): 0.0008961827140288901

Relative L2 error u(x): 0.002622448408691071

Predicted Gamma = 7.030783344402508

% error in gamma = 1.1394168047821305%