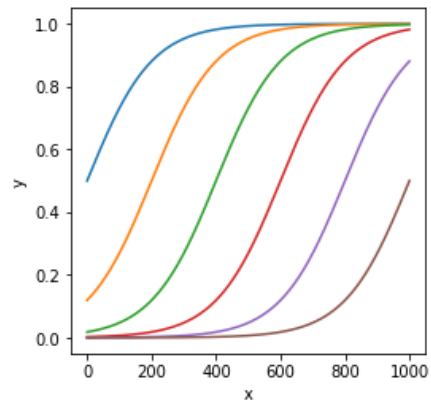


4.

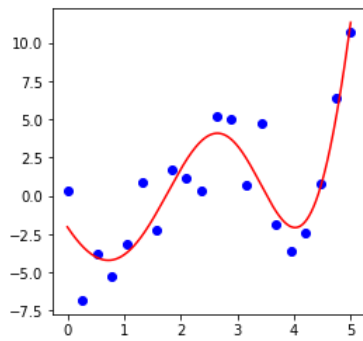
B)

Question 4(b): 6 basis functions



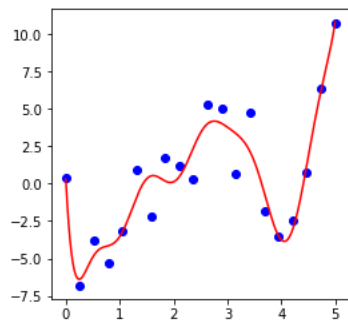
E)

Question 4(e): the fitted function (5 basis functions)



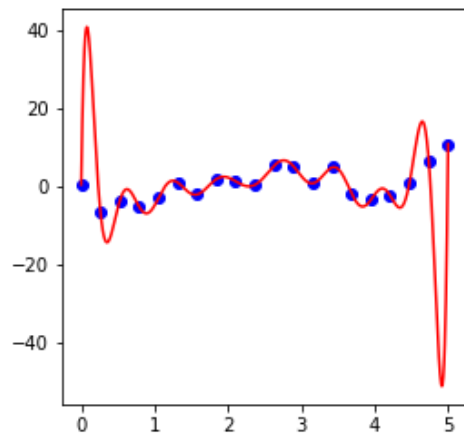
F)

Question 4(f): the fitted function (12 basis functions)



G)

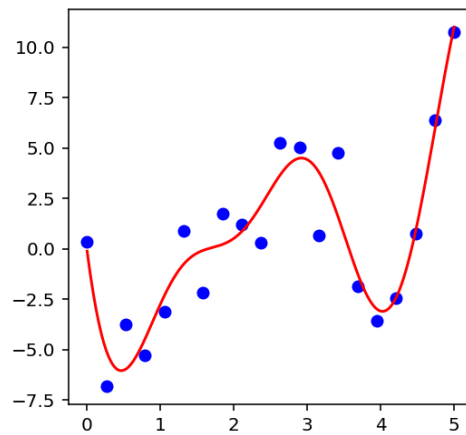
Question 4(g): the fitted function (19 basis functions)



5.

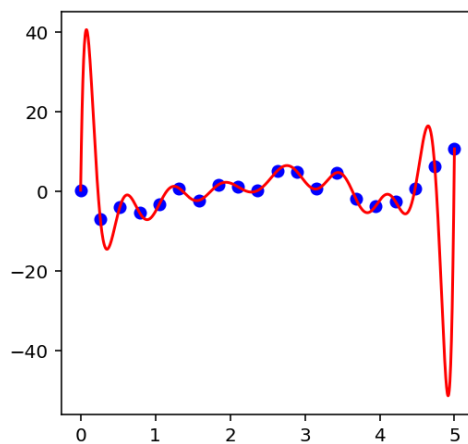
B)

Question 5(b): the fitted function, 19 basis functions, gamma 10^{-9}



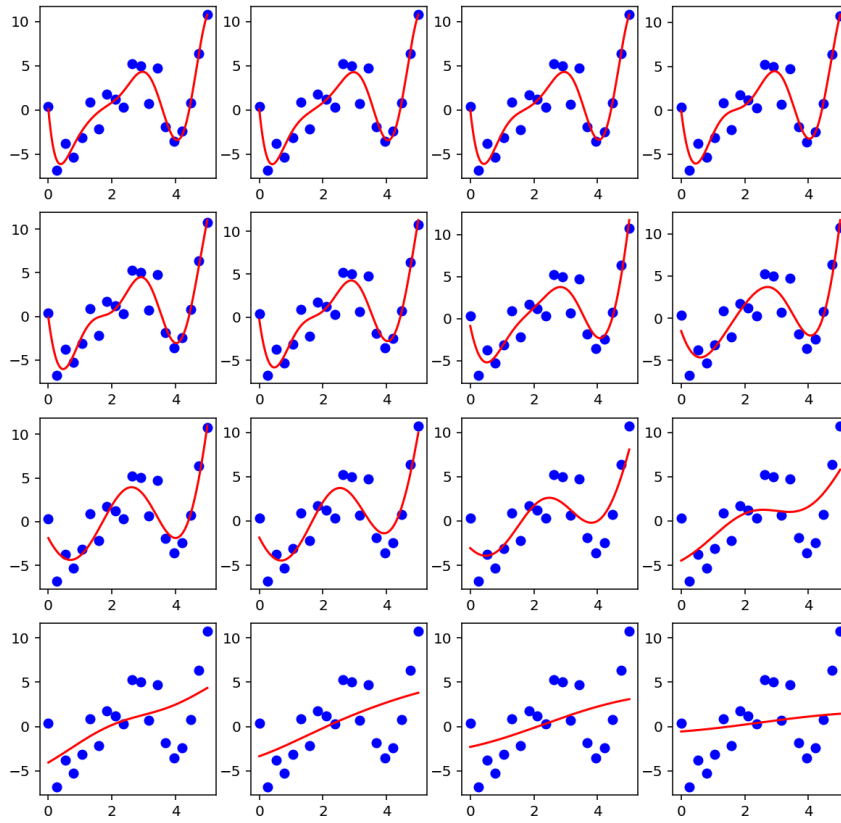
C)

Question 5(c): the fitted function, 19 basis functions, gamma 0

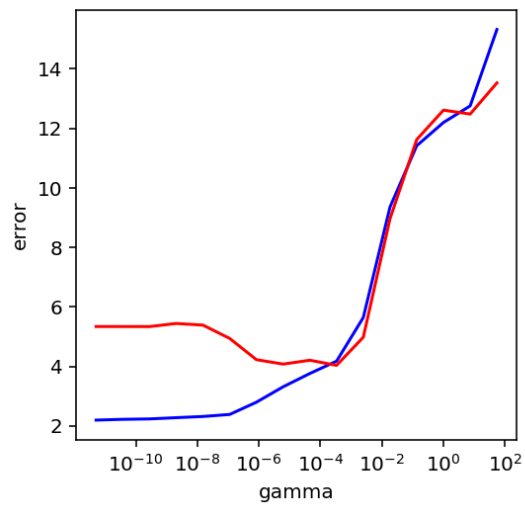


D)

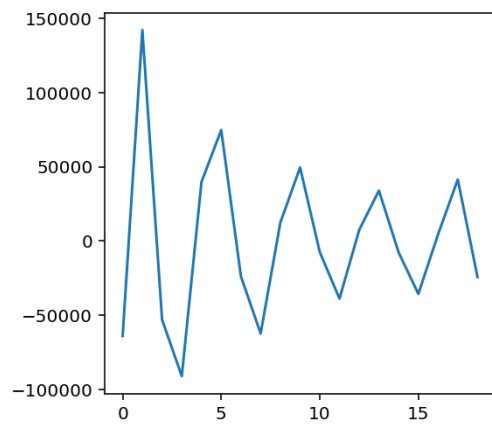
Question 5(d): best-fitting functions for $\log(\text{gamma}) = -26, -24, \dots, 0, 2, 4$



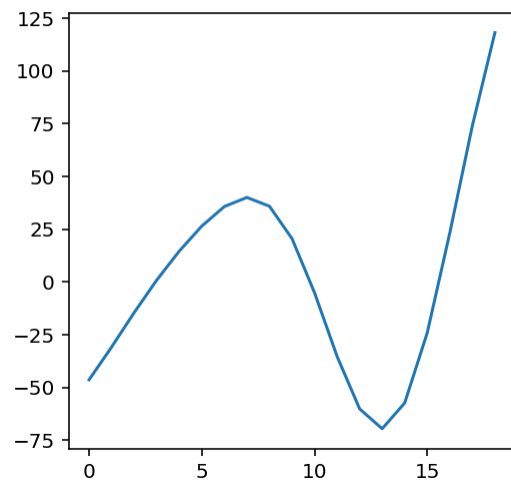
Question 5(d): training and validation error



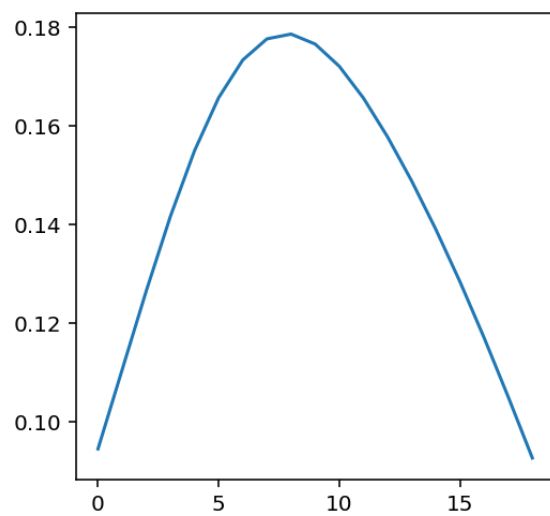
Question 5(d): weights for smallest gamma



Question 5(d): optimal weights

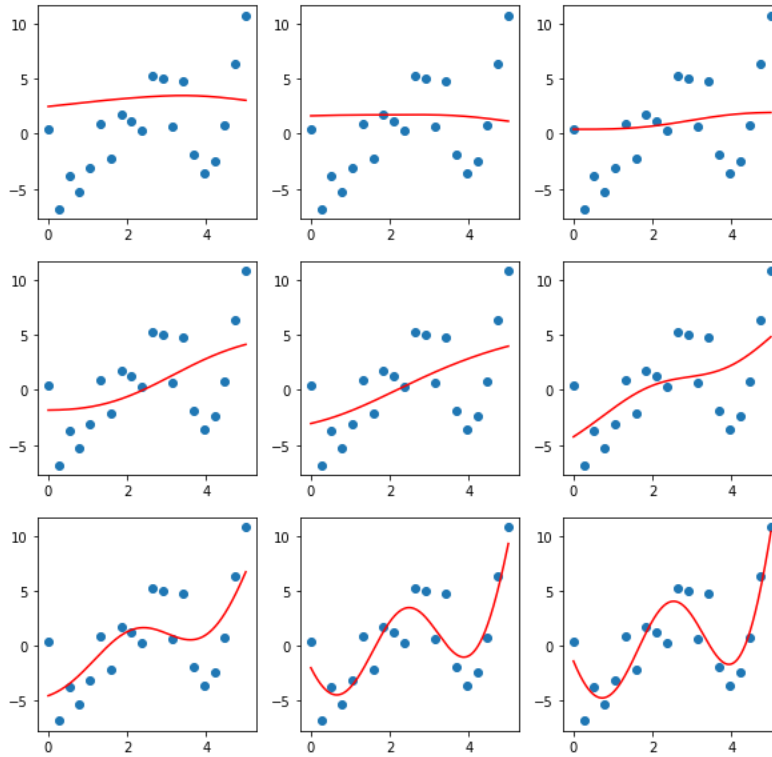


Question 5(d): weights for largest gamma

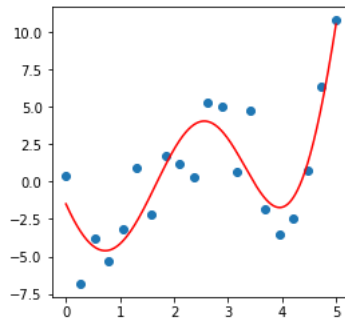


6.
D)

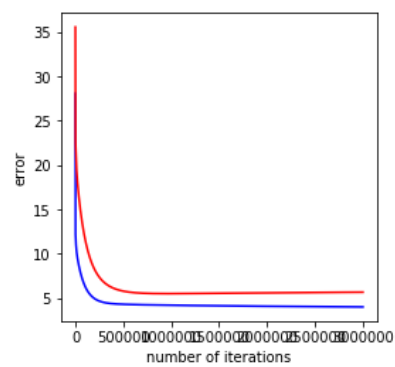
Question 6: fitted function as iterations increase



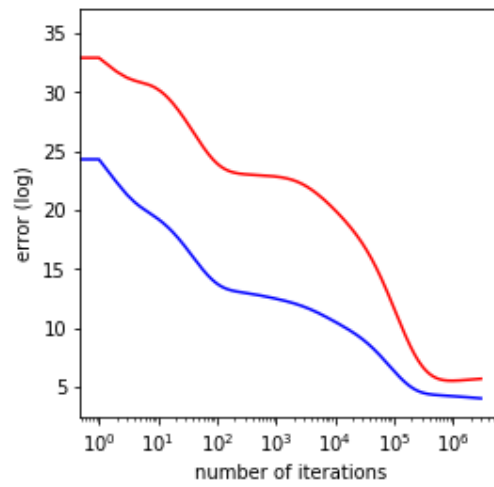
Question 6: fitted function



Question 6: training and test error v.s. iterations



Question 6: training and test error v.s. iterations (log scale)



Question 6: last 1,000,000 training errors

