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## Part 1:

Que1.) Code in part1Que1andQue2.py

## 1.)For stepsize = **0.0001**

weight vector = [[0.15926872 0.86883319 0.01207877 0.95277955 0.07638897 0.70607346 0.50586056 0.02169045 0.71666128 0.91473624 0.23018374 0.27750287]]

## 2.) For stepsize = 0.001

w\_train [[0.15437248 0.8098884 0.04045094 0.37086803 0.00253649 0.97119233 0.94980446 0.86916483 0.96558469 0.16544478 0.44819129 0.28926478]]

## 3.)**For stepsize = 0.01**

w\_train [[0.65422491 0.09958058 0.20571504 0.87455464 0.39088354 0.25358412 0.68054017 0.02762252 0.0652912 0.85858762 0.18717802 0.63684646]]

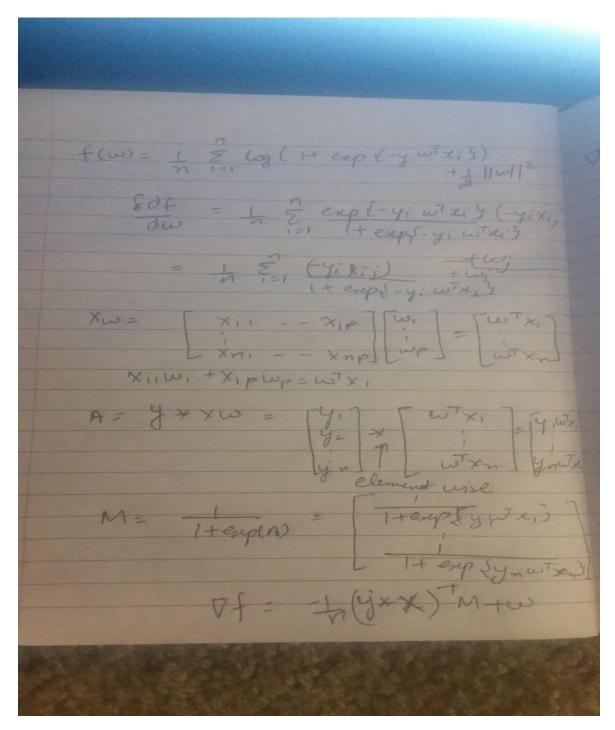
Que2.)Code in part1Que1andQue2.py
1.)For stepsize = 0.0001
MSE=0.4906158805694756 through cross-validation.
2.)For stepsize = 0.001
MSE is 0.3977520746212971 through cross-validation
3.) For stepsize = 0.01
MSE is 0.3040095038519309 through cross-validation

Que3.)Code in part1Que3.py *MSE is* 0.659665822743878 with the stepsize of 0.0001.

Part 2:

Que4.) Code in part2Que1.py

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Que5.) Code in part2Que2.py
The prediction accuracy is:100% as whole output test data produced is -1.