Problem 2

Please refer code in "homework1_problem2.py" file

Learning Rate = 0.001, Mini-batch Size = 16 Epochs = 500

Learning Rate = 0.001, Mini-batch Size = 16 Epochs = 800

Learning Rate = 0.001, Mini-batch Size = 32 Epochs = 500

Learning Rate = 0.001, Mini-batch Size = 32 Epochs = 800

Learning Rate = 0.001, Mini-batch Size = 64, Epochs = 200

Best Hyper Parameters: Learning Rate = 0.001, Mini-batch Size = 64, Epochs = 300

Best Validation Cost: 85.79074165813734

Test Set Cost: 91.2770543619194

Final weights: [1.72453075 0.95690721 0.44016528 ... -0.51512183 -0.74622786

-0.57810673]

Final bias: 17.22061632544509

Cost values of Training Dataset of last 10 iterations: [80.960956728065, 80.25277083835891, 82.55660852402269, 81.69922323588037, 80.33285699365253, 80.63207905226524, 80.25800268887053, 79.99398014068676, 79.96472628189154, 80.53654610685172]

Process finished with exit code 0