

Topics High Dimensional Data Analytics

Mid-term Exam

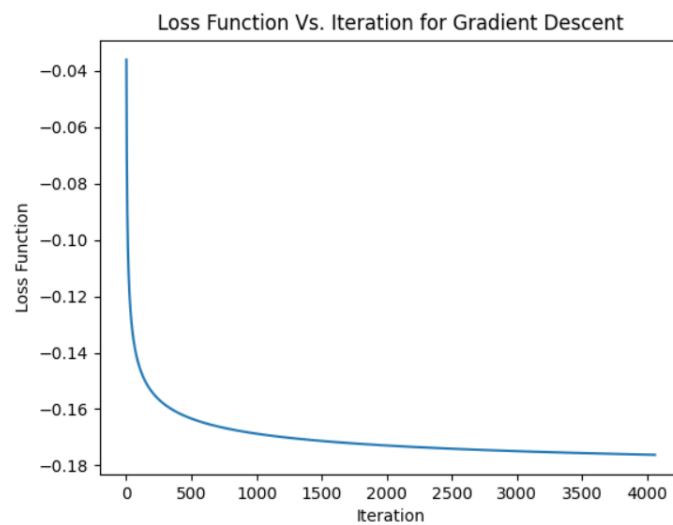
Question 4

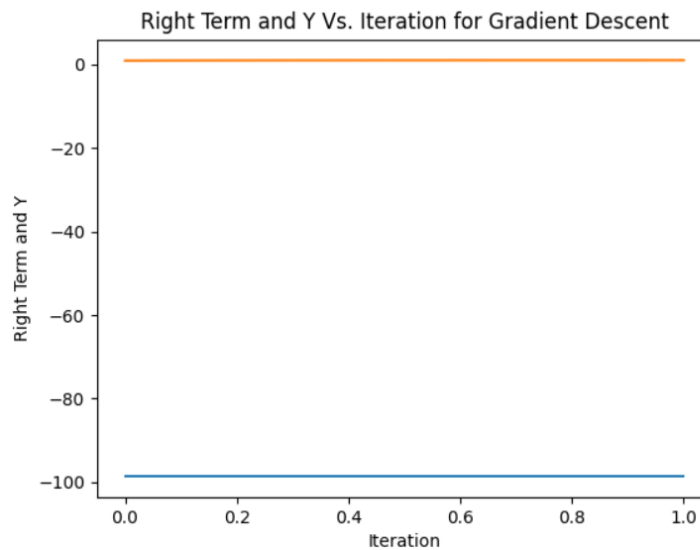
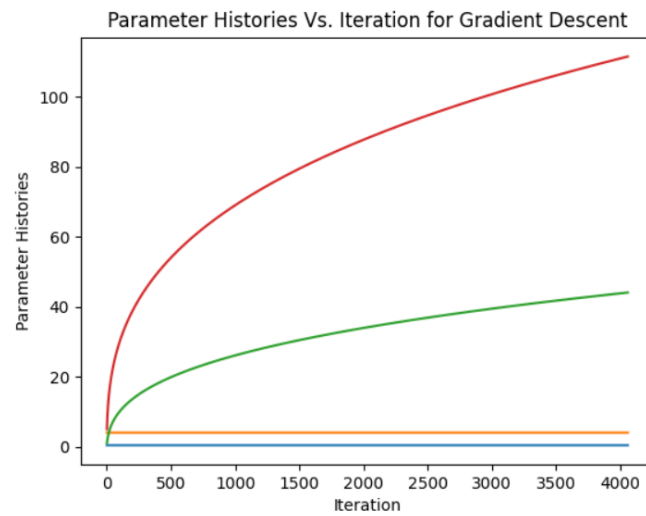
Ian Dover

Part 2b.

Gradient Descent

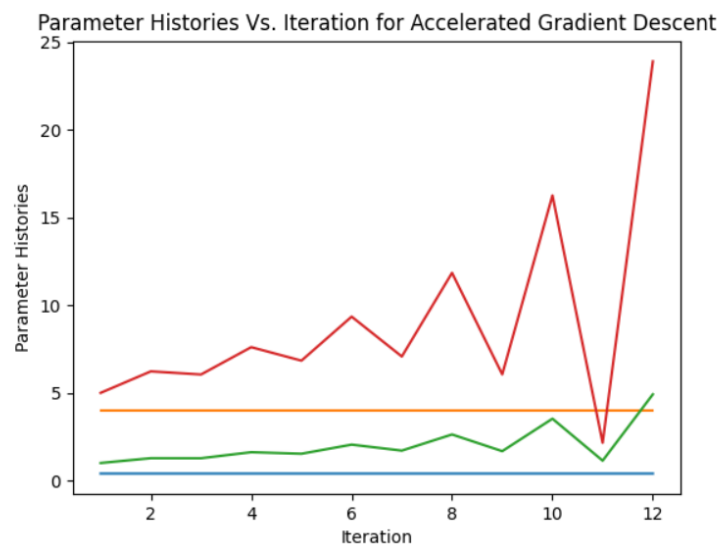
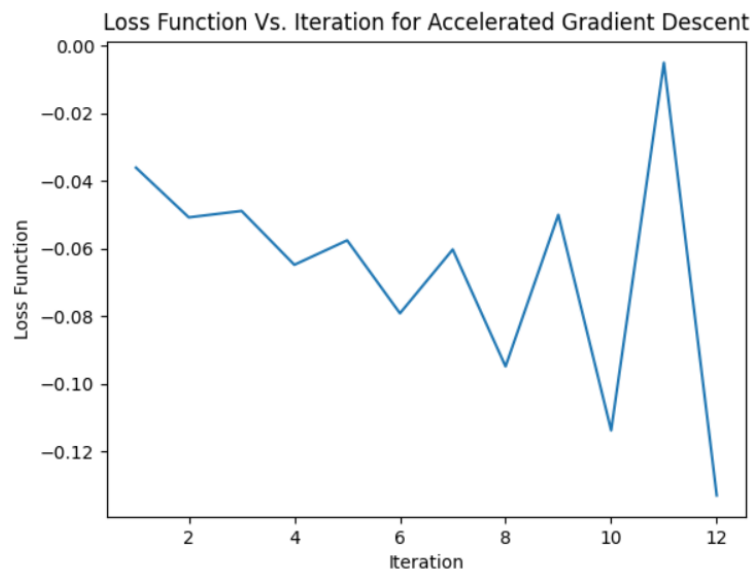
```
The best parameters given by gradient descent are:  
w0 = 0.40000060393128706,  
w1 = 4.0,  
alpha = 44.03191100696226,  
beta = 111.45844113852456
```

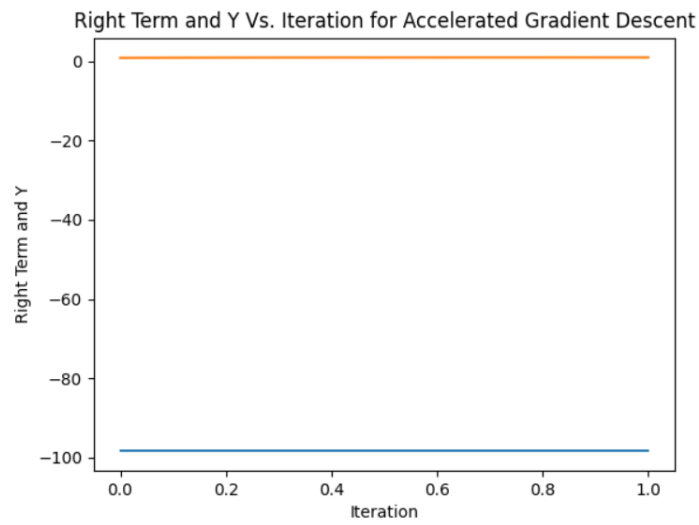




Accelerated Gradient Descent

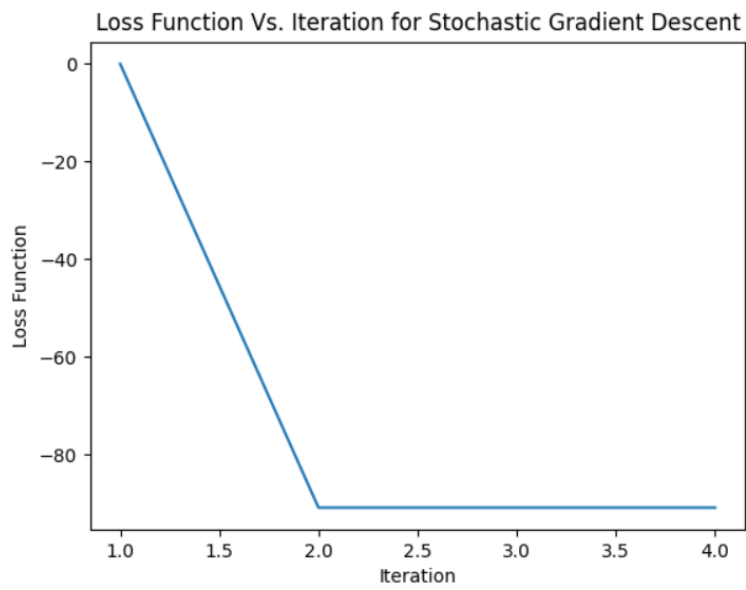
```
The best parameters given by accelerated gradient descent are:  
w0 = 0.40000578272106097,  
w1 = 4.0,  
alpha = 4.917648461809509,  
beta = 23.901579951201526
```

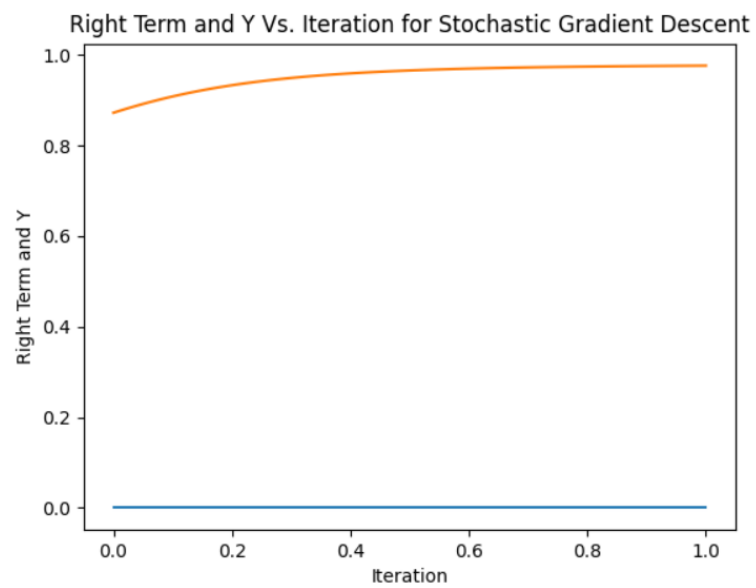
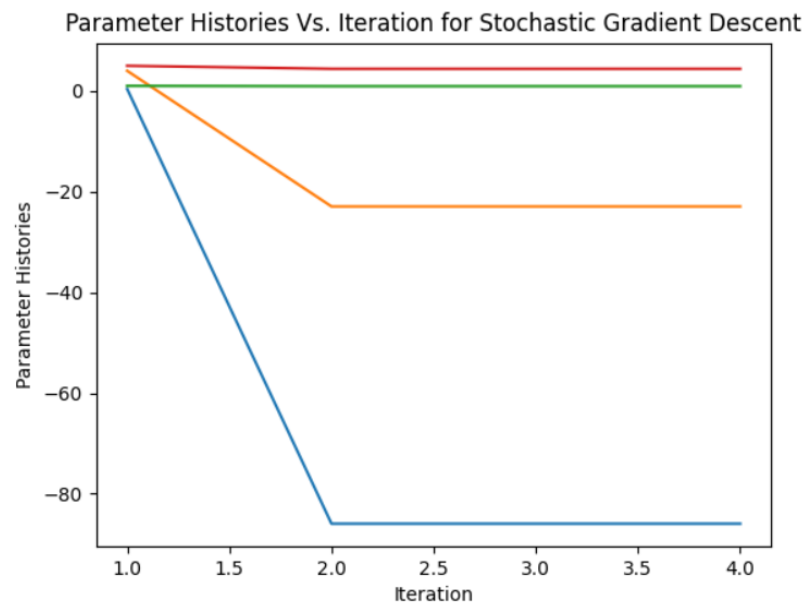




Stochastic Gradient Descent

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The best parameters given by stochastic gradient descent are:  
w0 = -85.94530405184537,  
w1 = -22.942041753462753,  
alpha = 0.9348267243776339,  
beta = 4.394210408634781
```





Part 3b.

