Dr. Williamson told me that I could just use a regular python file instead of a jupyter notebook. So added WriteUp with results and answers to questions to make grading process easier.

1. Learning rate -> epochs  
   0.05 -> 1,694,503  
   0.10 -> 2,643,293  
   0.15 -> 2,499,787  
   0.20 -> 1,891,269  
   0.25 -> 268,376  
   0.30 -> 428,449  
   0.35 -> 902,085  
   0.40 -> 158,224  
   0.45 -> 990,153  
   0.50 -> 896,522  
     
   Plot for learning rate vs epochs:  
     
   A screen shot of a graph

   AI-generated content may be incorrect.  
     
   As shown in the plot, the number of epochs required decrease as the learning rate goes from 0.05 to 0.4. The increase in learning rate reduces the epochs at a faster rate in the beginning and slows at it approaches 0.4. After 0.4, we no longer see a decrease in the number of epochs required as the learning rate decreases.
2. Learning rate -> epochs  
   0.05 -> 168,353  
   0.10 -> 377,053  
   0.15 -> 258,223  
   0.20 -> 35,549  
   0.25 -> 23,687  
   0.30 -> 21,146  
   0.35 -> 20,677  
   0.40 -> 27,021  
   0.45 -> 20,186  
   0.50 -> 17,077  
     
   Plot for learning rate with momentum vs epochs:  
   A graph with blue dots

   AI-generated content may be incorrect.