

---

```
Running numeric gradient check for fc
  grad_x difference: 1.2427170403839227e-10
  grad_w difference: 1.8818568925382806e-10
  grad_b difference: 5.866240826435387e-11
Running numeric gradient check for relu
  grad_x difference: 1.573126073850517e-10
Running numeric gradient check for softmax loss
  grad_x difference: 0.08402553245025368
Running numeric gradient check for L2 regularization
  grad_w difference: 9.897935249192358e-11
```

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```
Running numeric gradient check for LinearClassifier
  Max diff for grad_W: 1.687538997430238e-13
  Max diff for grad_b: 4.072298054325074e-13
Running numeric gradient check for TwoLayerNet
  Max diff for grad_W1: 5.029613878160255e-16
  Max diff for grad_b1: 3.5258254649228604e-16
  Max diff for grad_W2: 4.206704429243757e-16
  Max diff for grad_b2: 4.440892098500626e-16
```

Input scores:

```
[[ 0. -1000. -2000.]  
 [-2000.  0. -1000.]  
 [-1000. -2000.  0.]]
```

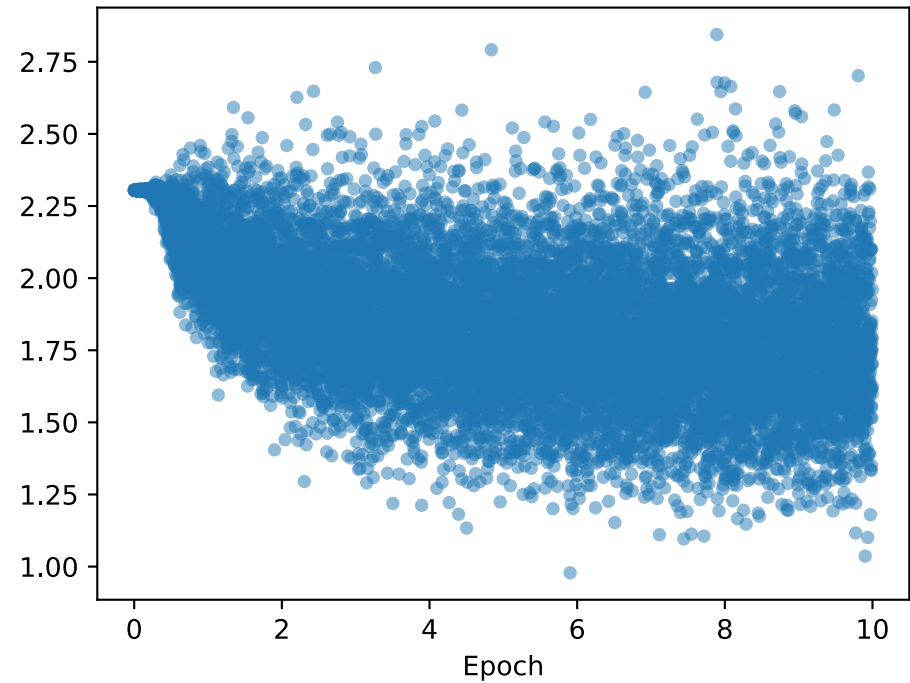
Input labels: [0 1 2]

Output loss: -0.0

It seems like your softmax\_loss is numerically stable!

```
Checking accuracy
  Train: 46.34
  Val:    43.20
Saving plot to plot.pdf
Saving model checkpoint to checkpoint.pkl
(base) Joshs-MBP:neuralnet JOSH$ python test.py
Loading model from checkpoint.pkl
Test-set accuracy: 44.27
(base) Joshs-MBP:neuralnet JOSH$ █
```

Loss



Accuracy

