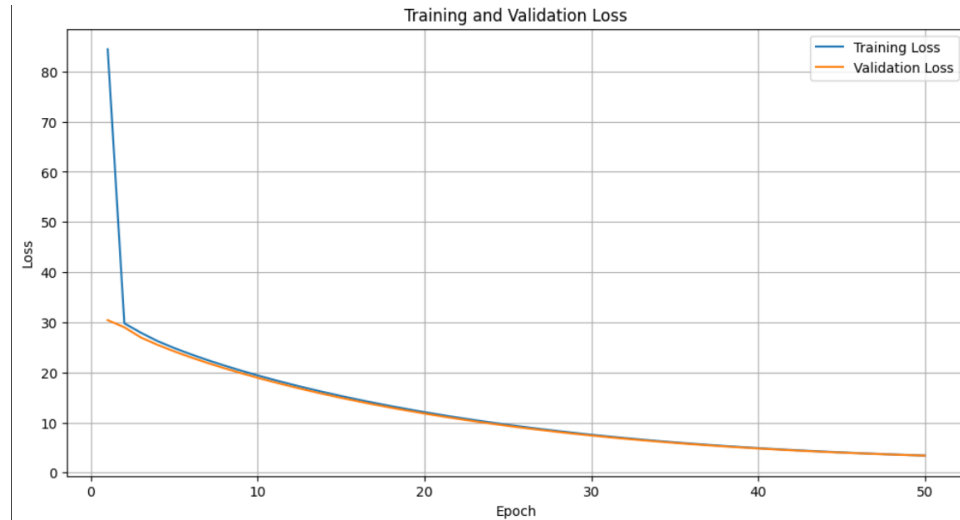


Assignment 2

1. Hinge loss with regularization



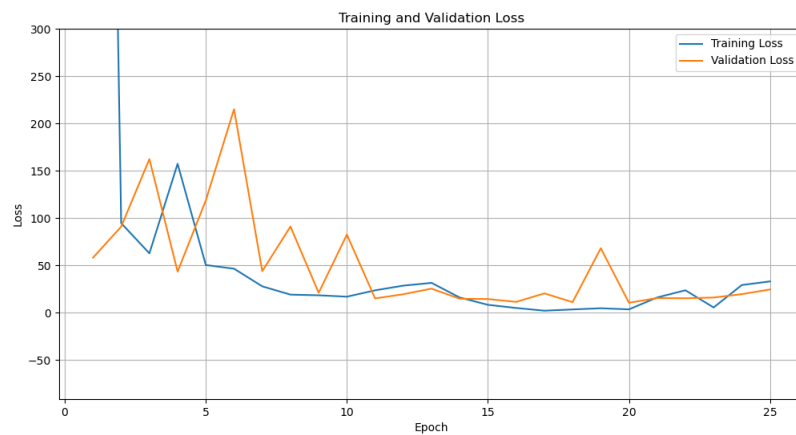
Observations:

Used L2 regularization

Hingeloss takes more time to converge than cross entropy

no of epochs taken were 50, there was no early stopping

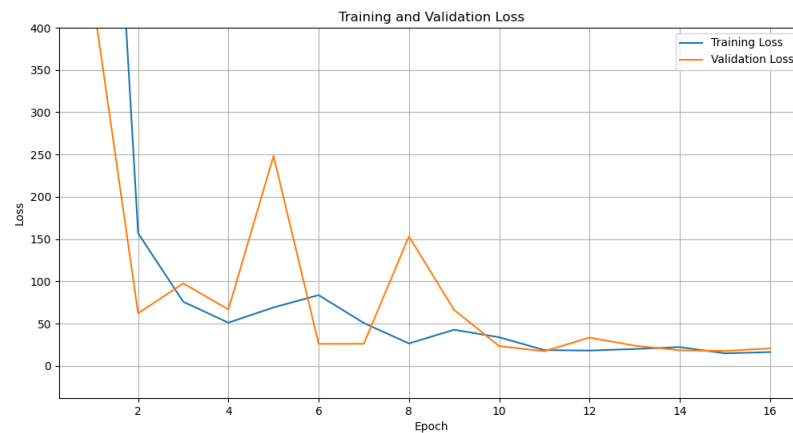
2. Hinge loss without regularization



Observations: validation losses are high even after convergence

Depicting there could be some overfitting

3. Cross entropy with regularization



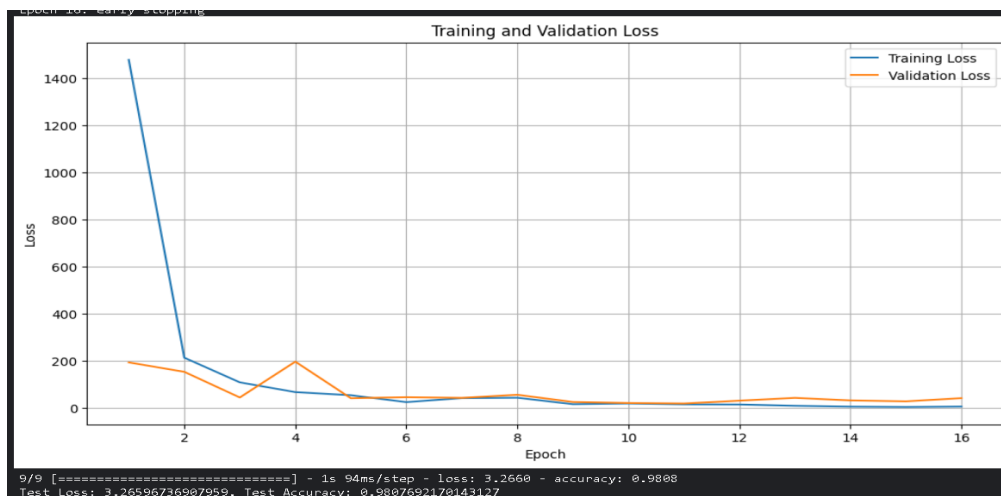
Observations:

Used L2 regularization.

Takes less time to converge than hinge loss.

no_epoch taken were only 11, there was no early stopping, weights used were that of 9th epoch.

4. Cross entropy without regularization



No big obvious difference with (3) was visible, could be because of very few outliers. Theoretically L2 regularization decreases overfitting by reducing model complexity.

Link to Dataset on Kaggle

Face : <https://www.kaggle.com/datasets/jessicali9530/celeba-dataset/>

Non Face: <https://www.kaggle.com/datasets/prasunroy/natural-images/>

Code :

Linked on Github .

<https://github.com/abhi1998goyal/Tutorial-set2>