



## 2.1

A simple FFNN achieved lower loss and higher training accuracy than LR because of nonlinear decision boundaries. Validation accuracy improved a bit as well. However the FFNN showed some signs of overfitting, unlike LR.

## 2.2

Increasing width improved training performance but eventually led to overfitting. Depth had moderate returns: 2 layers had small gain, but 3 layers slowed training and increased overfitting. Overall, wide networks helped more than deep ones on this dataset, but both made the model more sensitive to hyperparameters.

## 2.3

Setting the FFNN to 0 hidden layers and using the same hyperparameters made its loss and accuracy curves match LR exactly for all epochs.

## 3.

Logistic Regression: simple, stable, low overfitting, learns only linear boundaries. FFNN: more expressive and can outperform LR, but requires careful tuning and overfits more easily. When configured identically, FFNN reduces to LR and produces identical training curves.