HW1: Implement a Neural Network

- In this homework, you will implement a single layer neural network **from scratch**, then validate it using a PyTorch implementation.
- All HW1 files can be found in HW1.zip under HW1 assignment.
- HW1 out: 01/28/2025
- HW1 due: **02/10/2025 11:00 am on Gradescope**
  (late due date 02/12/2025 11:00 am)
- Submission1**:** A report (pdf) containing the loss and accuracy plots for the training process and test process. Compare and comment on the results from your implementation vs PyTorch implementation.
- Submission2: Submit your code as a single **.ipynb** file or zipped **.py** files folder.
- Please be aware of the two separate submissions on Gradescope.

Suggestions

- Feel free to play around with your implementation (though not mandatory), such as stacking two layers or more, changing hidden layer dimensions, etc.
- This is a binary classification task, but your implementation should generalize to multi-label classification (classes > 2), too.