

## Practice exercises 1

You will experiment with a simple neural network for a binary classification task, using `nn.Linear()`, `nn.Sequential()` and the `network` class. You will learn about layers, linear connections, weights, biases, and logits. You will familiarize yourself with concepts like non-linearity, implement the first basic neural network with a non-linear activation function.

There are two optional notebooks available. If you're unfamiliar with either topic, please review them:

- Introduction to Python Basics
- Introduction to NumPy

The Practice 1 includes the core exercises for the lab. Detailed instructions and explanations are provided in the accompanying Jupyter notebook.

**1.1** Read tabular data for a binary classification task.

**1.2** Build the model with `nn.Linear()`. Understand what a layer, linear connections, weights, biases, and logits are.

**1.3** Make predictions from a pretrained model.

**1.4** Build a model with `nn.Sequential()` and `network` class.

**1.5** Familiarize yourself with the idea of non-linearity, build the first NN with a non-linear activation function.

**1.6** Count the model's parameters.

**(optional) 1.7** Implement a class of (a skip-connection) network of a specified architecture.