1. Write the Python code to implement a single neuron.
2. Write the Python code to implement ReLU.
3. Write the Python code for a dense layer in terms of matrix multiplication.
4. Write the Python code for a dense layer in plain Python (that is, with list comprehensions and functionality built into Python).
5. What is the “hidden size” of a layer?
6. What does the t method do in PyTorch?
7. Why is matrix multiplication written in plain Python very slow?
8. In matmul, why is ac==br?
9. In Jupyter Notebook, how do you measure the time taken for a single cell to execute?
10. What is elementwise arithmetic?
11. Write the PyTorch code to test whether every element of a is greater than the corresponding element of b.
12. What is a rank-0 tensor? How do you convert it to a plain Python data type?
13. How does elementwise arithmetic help us speed up matmul?
14. What are the broadcasting rules?
15. What is expand\_as? Show an example of how it can be used to match the results of broadcasting.