# Deep Learning Frameworks

## Assignment Questions

PW SKILLS

# Deep Learning Frameworks

1. What is TensorFlow 2.0, and how is it different from TensorFlow 1.x?
2. How do you install TensorFlow 2.0?
3. What is the primary function of the tf.function in TensorFlow 2.0?
4. What is the purpose of the Model class in TensorFlow 2.0?
5. How do you create a neural network using TensorFlow 2.0?
6. What is the importance of Tensor Space in TensorFlow?
7. How can TensorBoard be integrated with TensorFlow 2.0?
8. What is the purpose of TensorFlow Playground?
9. What is Netron, and how is it useful for deep learning models?
10. What is the difference between TensorFlow and PyTorch?
11. How do you install PyTorch?
12. What is the basic structure of a PyTorch neural network?
13. What is the significance of tensors in PyTorch?
14. What is the difference between torch.Tensor and torch.cuda.Tensor in PyTorch?
15. What is the purpose of the torch.optim module in PyTorch?
16. What are some common activation functions used in neural networks?
17. What is the difference between torch.nn.Module and torch.nn.Sequential in PyTorch?
18. How can you monitor training progress in TensorFlow 2.0?
19. How does the Keras API fit into TensorFlow 2.0?
20. What is an example of a deep learning project that can be implemented using TensorFlow 2.0?
21. What is the main advantage of using pre-trained models in TensorFlow and PyTorch?

# Practical

1. How do you install and verify that TensorFlow 2.0 was installed successfully?
2. How can you define a simple function in TensorFlow 2.0 to perform addition?
3. How can you create a simple neural network in TensorFlow 2.0 with one hidden layer?
4. How can you visualize the training progress using TensorFlow and Matplotlib?
5. How do you install PyTorch and verify the PyTorch installation?
6. How do you create a simple neural network in PyTorch?
7. How do you define a loss function and optimizer in PyTorch?
8. How do you implement a custom loss function in PyTorch?
9. How do you save and load a TensorFlow model?