HW3 Report

Q2.

1. Compare GCN, GraphSAGE, and GAT

	GCN	GraphSAGE	GAT
Test Accuracies	0.7970	0.7620	0.7330
No. of epochs	16	2	19

    a. **Which GNN converges slower than others? Why (just write your intuition)?**
    -> GAT seems to converge slower than others. However, GCN is not far from it as well. The reason I think this is happening is because these networks need a lot of fine-tuning for the problem we are working with. Perhaps by tweaking a few features in GCN or GAT, we could make them converge faster. But it could be that the model architecture of GraphSAGE with the default settings that we used allowed it to converge quickly. Or, it could also be that convergence was more dependent on the network architecture and less on the hyper-parameters like learning rate and so on. Further detailed analysis could bring out the main issue with GAT and GCN in this particular study.