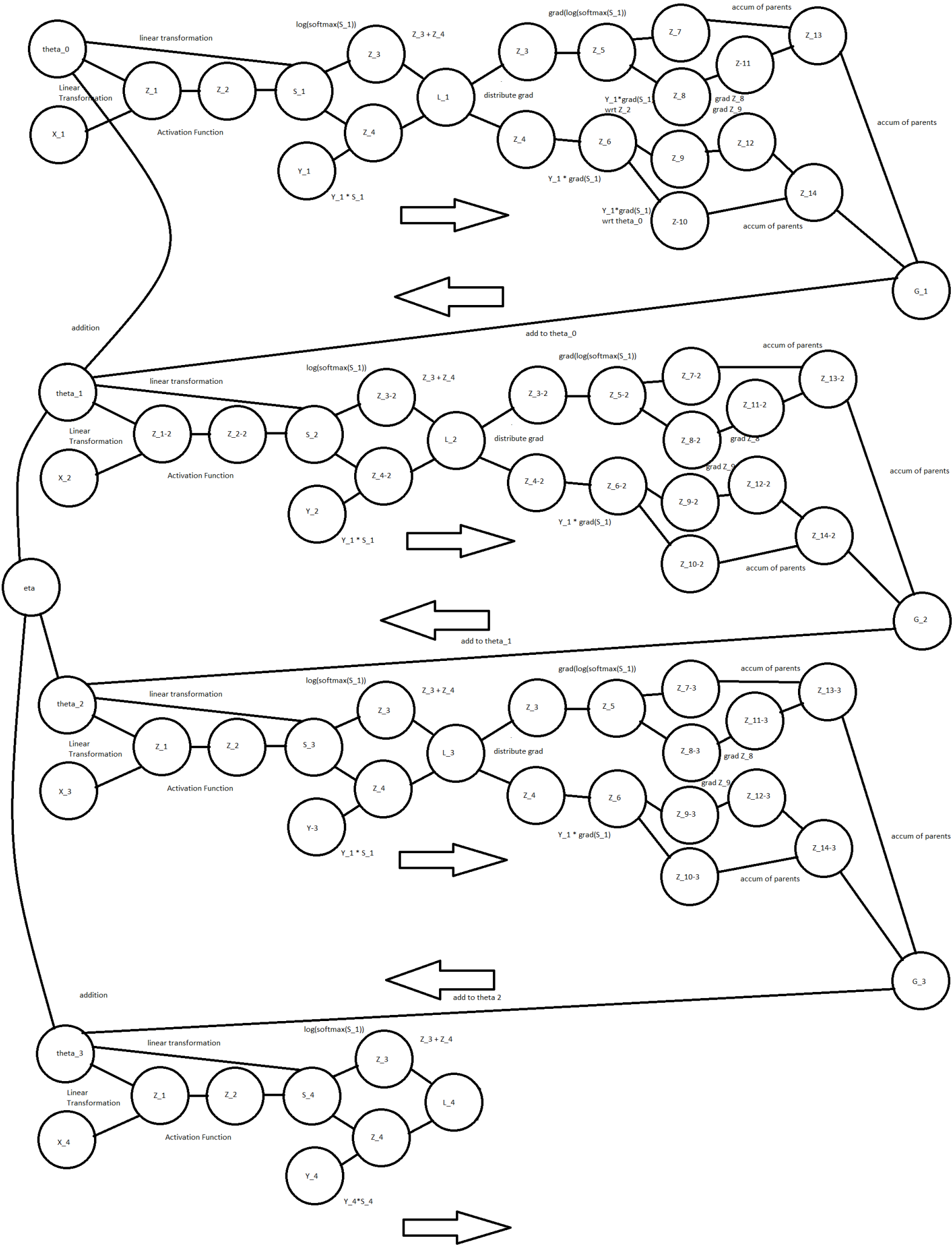


4.1:

Below is the computation graph that computes  $\ell_{\text{CE}}(\theta_3, \mathbf{X}^{(4)}, \mathbf{Y}^{(4)})$ .



5:

I affirm that I have followed the instructions for this assignment and that my answers and submitted code represent my own work, without the use of any unpermitted aids or resources. Nicholas Carroll

6:

I have attempted the extra credit assignment. My minimized value of  $\eta$  is 0.00095 after 20 epochs.