Deep Learning

Back Propagation & FF Coding

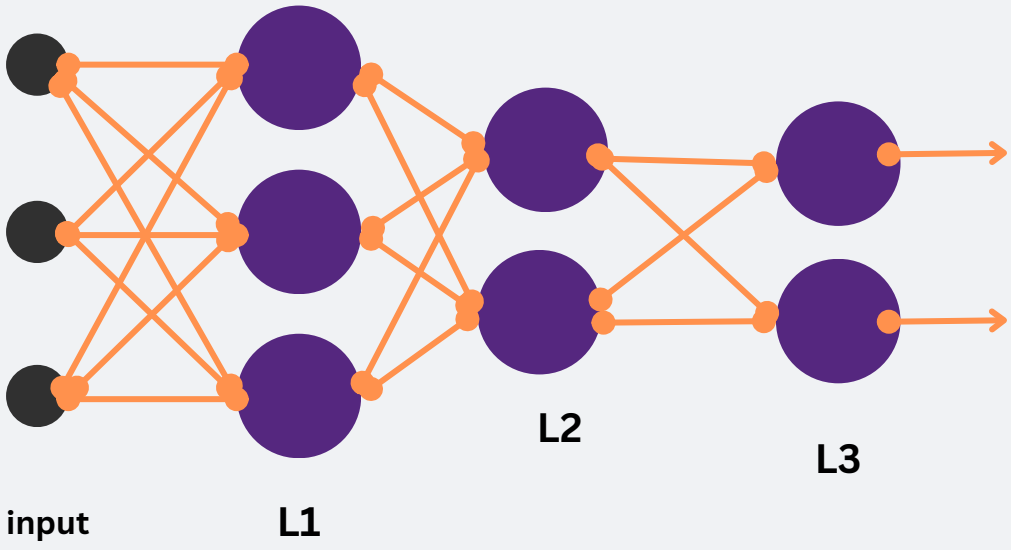
800

1. **For the below feed-forward neural network architecture obtain the following weights after 1st Back Propagation iteration (epoch): [ignore the biases change during backpropagation]**

$w^{1}_{11} = ?$

$w^{2}_{21} = ?$

$w^{3}_{22} = ?$



inputs	L1-Weights	L1-Biases	L2-Weights	L2-Biases	L3-Weights	L3-Biases
0.3	0.1 0.2 0.2	0.2	0.1 0.2 0.2	0.1	0.5 0.1	0.5
0.5	0.4 0.1 0.2	0.2	0.4 0.1 0.2	0.4	0.5 0.5	0.3
0.8	0.2 0.3 0.1	0.1				

- **Activation Functions:**
  - L1: Relu
  - L2: Tanh
  - L3: Sigmoid
- **Loss Function:** MSE
- **Optimizer:** GD

2. As you saw in the previous session, the designed model could not predict the input image correctly. Change the code and Design the network using Dense layers so that it can classify the input image (seven.png) correctly.