Assignment-5

Hardcoding Neural Network

Each Question Carries 15 Marks & Viva 10 Marks

1. Implement a 3 layer multilayer perceptron neural network with 2-4-1 architecture and solve the EX-OR classification problem using backpropagation algorithm. Note: Don't consider bias at any neuron. Use Sigmoid activation function at every neuron. Train for 100 epochs. Plot the convergence graph.
2. Implement a 3 layer multilayer perceptron neural network with 2-6-1 architecture and solve the EX-OR classification problem using backpropagation algorithm. Note: Don't consider bias at any neuron. Use Sigmoid activation function at every neuron. Train for 100 epochs. Plot the convergence graph.
3. Implement a 3 layer multilayer perceptron neural network with 2-6-1 architecture and solve the EX-OR classification problem using backpropagation algorithm. Note: Consider bias at every neuron. Use Sigmoid activation function at every neuron. Train for 100 epochs. Plot the convergence graph.
4. Implement a 3 layer multilayer perceptron neural network with 2-6-1 architecture and solve the EX-OR classification problem using backpropagation algorithm. Note: Consider bias at every neuron. Use ReLU activation function at hidden layer neurons and Sigmoid activation function at output layer neuron. Train for 100 epochs. Plot the convergence graph.
5. Implement a 3 layer multilayer perceptron neural network with 2-6-1 architecture and solve the EX-OR classification problem using backpropagation algorithm. Note: Consider bias at every neuron. Use Sigmoid activation function at hidden layer neurons and ReLU activation function at output layer neuron. Train for 100 epochs. Plot the convergence graph.
6. Implement a 3 layer multilayer perceptron neural network with 2-6-1 architecture and solve the EX-OR classification problem using backpropagation algorithm. Note: Consider bias at every neuron. Use ReLU activation function at every neuron. Train for 100 epochs. Plot the convergence graph.