**Lab Tasks: Building a Feedforward Neural Network (FFNN) from Scratch**

**Objective:** *Implement a basic feedforward neural network and train it using the backpropagation algorithm.*

1. **Build a Feedforward Neural Network (FFNN):** Design a simple FFNN with one input layer, one hidden layer (with 2 neurons), and one output layer. Initialize random weights and biases for the network.
2. **Implement Forward Propagation:** Write a function for forward propagation in your FFNN. Given input data, compute the output of the network by passing it through the layers.
3. **Define a Loss Function:** Choose a loss function (e.g., mean squared error for regression). Implement a function that calculates the loss between predicted and actual outputs.
4. **Initialize Hyperparameters:** Set the learning rate, the number of training epochs, and the batch size. Explain the importance of these hyperparameters.
5. **Implement Backpropagation Algorithm:** Create functions for calculating gradients of weights and biases in each layer and for updating these parameters using gradient descent.
6. **Train the FFNN:** Use a small dataset (e.g., XOR problem for binary classification) to train your FFNN. Run multiple epochs of forward and backward passes to minimize the loss. Monitor the loss during training.
7. **Print and Visualize Weights:** Implement a function that prints the weights of each neuron after a certain number of iterations (e.g., every 10 epochs). Analyze how weights change during training.
8. **Test the Trained Network:** After training, use your trained FFNN to make predictions on a separate test dataset. Calculate and report the accuracy (for classification) or mean squared error (for regression) on the test data.