Forward and Backward Propagation Assignment

1. Explain the concept of forward propagation in a neural network
Forward propagation is the process where input data is passed through the network's layers, applying weights, biases, and activation functions at each step, to produce the final output or prediction.

2. What is the purpose of the activation function in forward propagation
The activation function introduces non-linearity, enabling the neural network to learn complex patterns and make predictions beyond simple linear relationships.

3. Describe the steps involved in the backward propagation (backpropagation) algorithm
Backpropagation involves calculating the error at the output, then propagating this error backward through the network, adjusting weights and biases using the gradient descent algorithm to minimize the loss.

4. What is the purpose of the chain rule in backpropagation
The chain rule is used to compute the gradients of the loss with respect to each weight by breaking down the derivative of the loss function step by step across the layers.