Gradient Descent Method (isNeural == False)

Linear equation:

Where and the rest are defined in the handout

Current value = calculating the linear equation for current board

Output value = calculating linear equation for board after making move

Update weights

Neural Network Method (isNeural == True)

Has one hidden node

Summation

Sigmoid

Hidden

Node

Output Value

Sigmoid function =

Summation is just the linear equation

Update of weights…

Error for output Node = output \* (1-output)\*(output-current)

Error for hidden Node = hidden Node Value \* (1-hiddenNode Value) \* (hiddenNodeWeight \* error for output Node)

Error for individual weights = LEARNING RATE \* (hidden node – current feature value) \* current feature value

Update weights