Nicholas Zullo CS 1678 HW 1 ReportChart

Description automatically generatedChart

Description automatically generatedChart

Description automatically generated

Part D) Backprop of second architecture

X = [1 1 1], y = [0 0], all weights .05, learning rate = .3

From forward in class, z = [1 .537 .537] and y = [.5259 .5259]

y\_err = y(1-y)(y-y’) = .5259(1 - .5259)(.5259 – 0) = .131122

z\_err = z(1-z)sum(y\_err\*w\_kj) = .537(1-.537)(.131122\*.05 + .131122\*.05) = .00326

w2\_kj = w2\_kj – learn\*y\_err\*zk

w2\_10 = .05 - .3(.131122)(1) = .0106634

w2\_20 = .05 - .3(.131122)(1) = .0106634

w2\_11 = .05 - .3(.131122)(.537) = .028876

w2\_21 = .05 - .3(.131122)(.537) = .028876

w2\_12 = .05 - .3(.131122)(.537) = .028876

w2\_22 = .05 - .3(.131122)(.537) = .028876

w1\_ji = w1\_ji – learn\*z\_err\*xi

w1\_10 = .05 - .3(.00326)(1) = .049022

w1\_20 = .05 - .3(.00326)(1) = .049022

w1\_11 = .05 - .3(.00326)(1) = .049022

w1\_21 = .05 - .3(.00326)(1) = .049022

w1\_12 = .05 - .3(.00326)(1) = .049022

w1\_22 = .05 - .3(.00326)(1) = .049022