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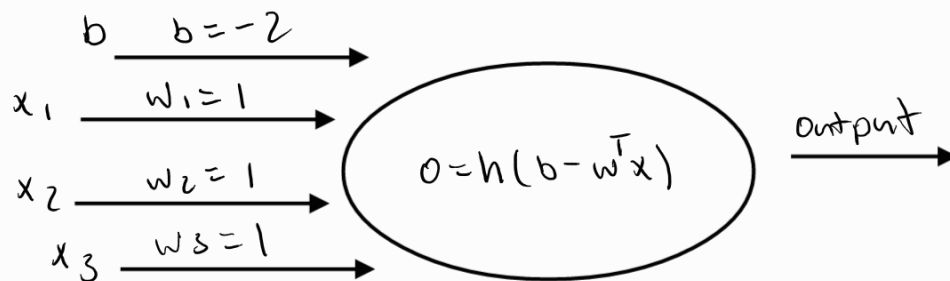## Task1

pendigits dataset, with 2 layers, 10 training round
classification accuracy=.7827

pendigits dataset, with 4 layers, 40 units per hidden layer, 20 training rounds:
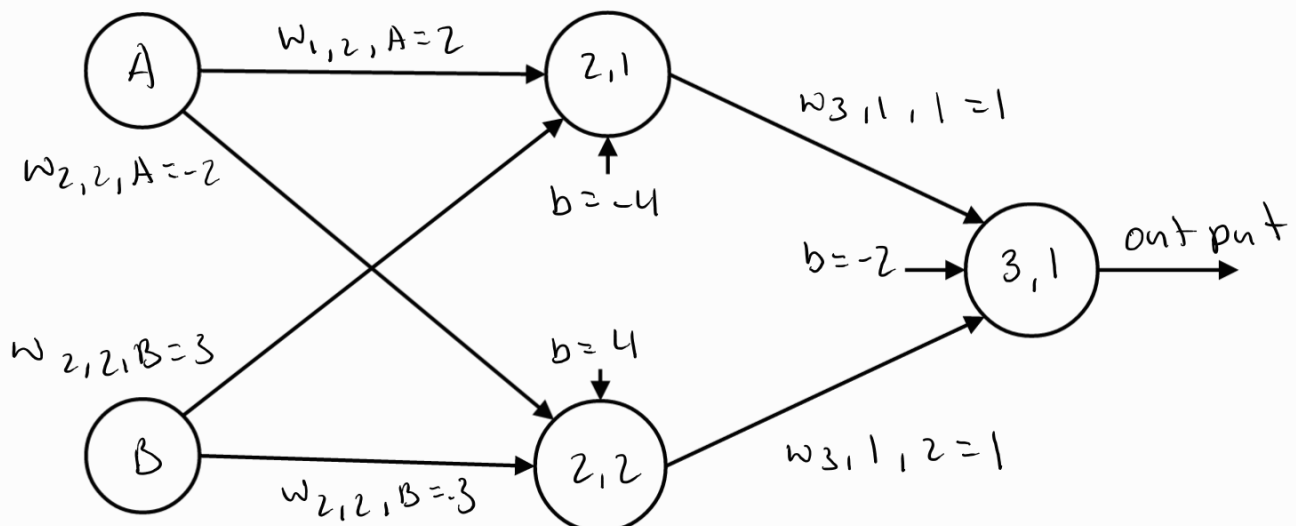classificaiton accuracy=.8788

Task 2

- output =0 if weighted sum LESS than O
- output = I if weightell sum GREATER or EQUAL than O

if h (-2 + (1×1) + (1×1) + (1×0)) = h (0) = 1, Therefore True
if h (-2 + (1×1) + (1×0) + (1×0)) = h (-1) = 1, Therefore False

Task 3

Both 2,1 and 2,2 would have to be true for the output to return true
Ex: if A = .5 and B = 1, then
   Doing unit 2,1: (.5x2) + (1x3) - 4 = 0 -> 2,1(0) = 1 ->

Doing unit 2,2: (.5x-2) + (1x-3) +4 = 0 -> 2,2(0) = 1 ->
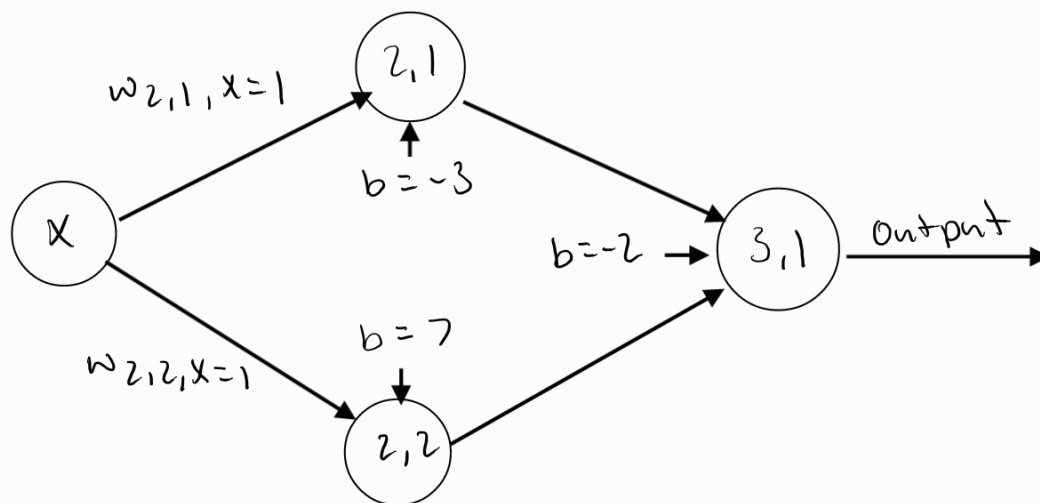Doing unit 3,1: 2,1(0) + 2,2(0) - 2 -> 1+1-2 = 0 -> h(0) = 1, Therefore True

Ex: if A = 1 and B = 1, then
Doing unit 2,1: (1x2) + (1x3) - 4 = 1 -> 2,1(1) = 1 ->
Doing unit 2,2: (1x-2) + (1x-3) +4 = -1 -> 2,2(-1) = 0 ->
Doing unit 3,1: 2,1(1) + 2,2(-1) - 2 -> 1+0-2 = -1 -> h(-1) = 0, Therefore False

Task 4

This will check if 3 < X < 7; This only works if both conditions are true that X > 3 and X < 7
Sense the Question does not specify what happens when X = 3 or X = 7 I am going to make
the case that when X is 3 or 7 the output will be true as it has to be 0 or 1.

Task 5

Based on the equation (b+w^t*x) we can conclude that if weight(w) were initialized to 0 then
the only thing that would determine the output would be the bias(b). If that is the case then
we would learn nothing from out neronetwork, therefore making it useless.