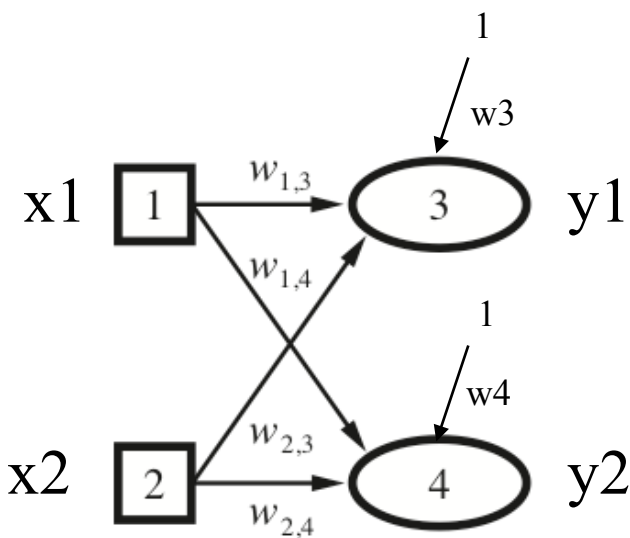


CMSC 471, Fall 2017
Homework 7
Due Tuesday, December 19th by 11:59pm
GitHub Repo: <https://classroom.github.com/a/Mlkt5eN>

Consider the neural network below, which has two inputs, two outputs, and six weights. Weights w_3 and w_4 are tied to an input that is always 1. They are the bias terms. The inputs and outputs are all either 0 or 1. Nodes 1 and 2 are the input values. Nodes 3 and 4 compute the output values. The activation function for nodes 3 and 4 is a step function that is 0 if the weighted sum of all of the node's input is *less than* 0, and 1 otherwise.



Specify the 6 weights needed to compute the 2-bit add function shown in the table below. Also, show the computation performed by the network for the 2nd and 4th rows of the table below. That is, show the weighted sum for nodes 3 and 4 for each of those examples. Submit a single file to the repository with your answers.

X1	X2	Y1 (carry)	Y2 (sum)
0	0	0	0
0	1	0	1
1	0	0	0
1	1	1	0