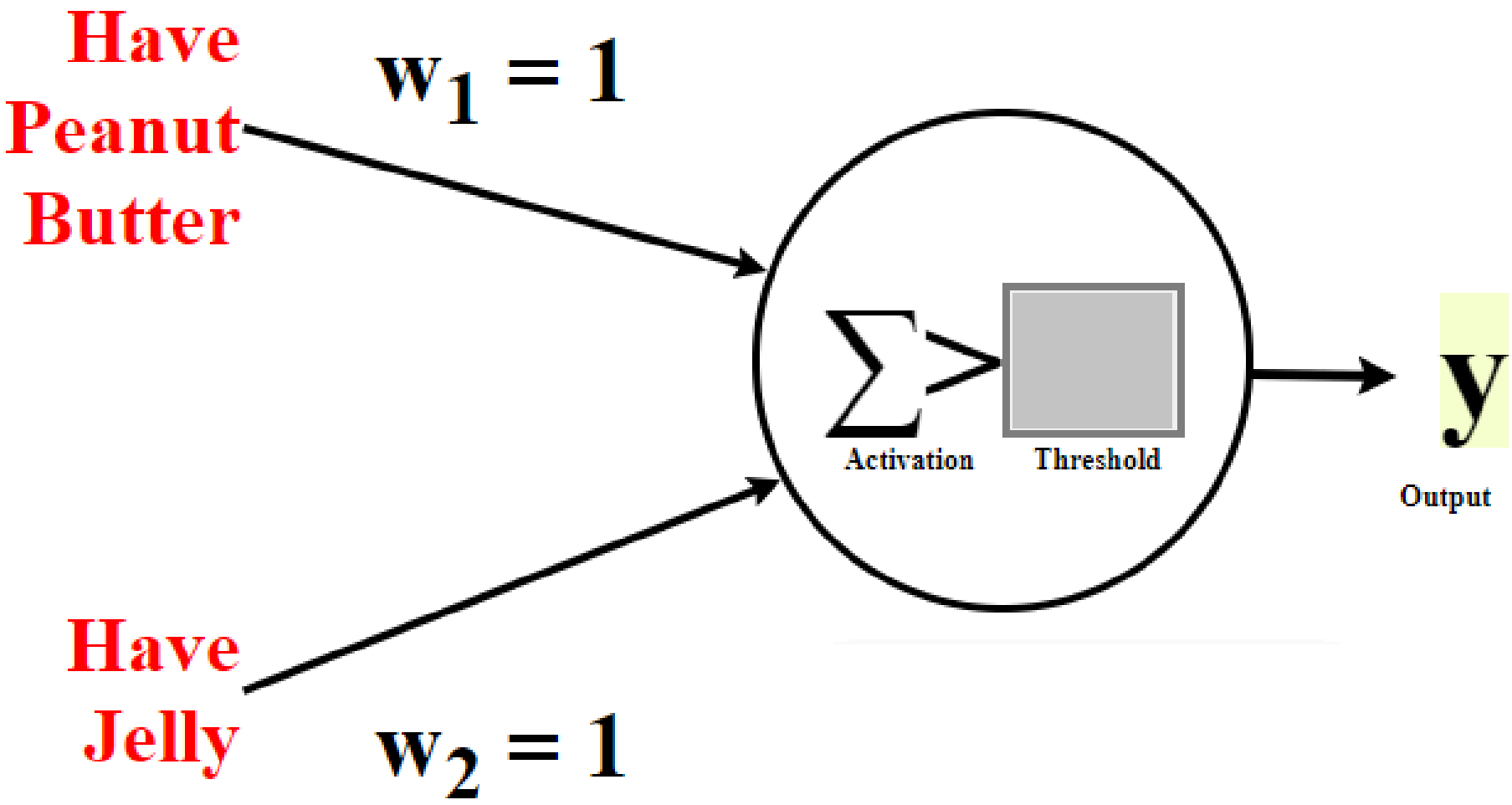
Can I make a peanut butter and jelly sandwich? I need both peanut butter and jelly.

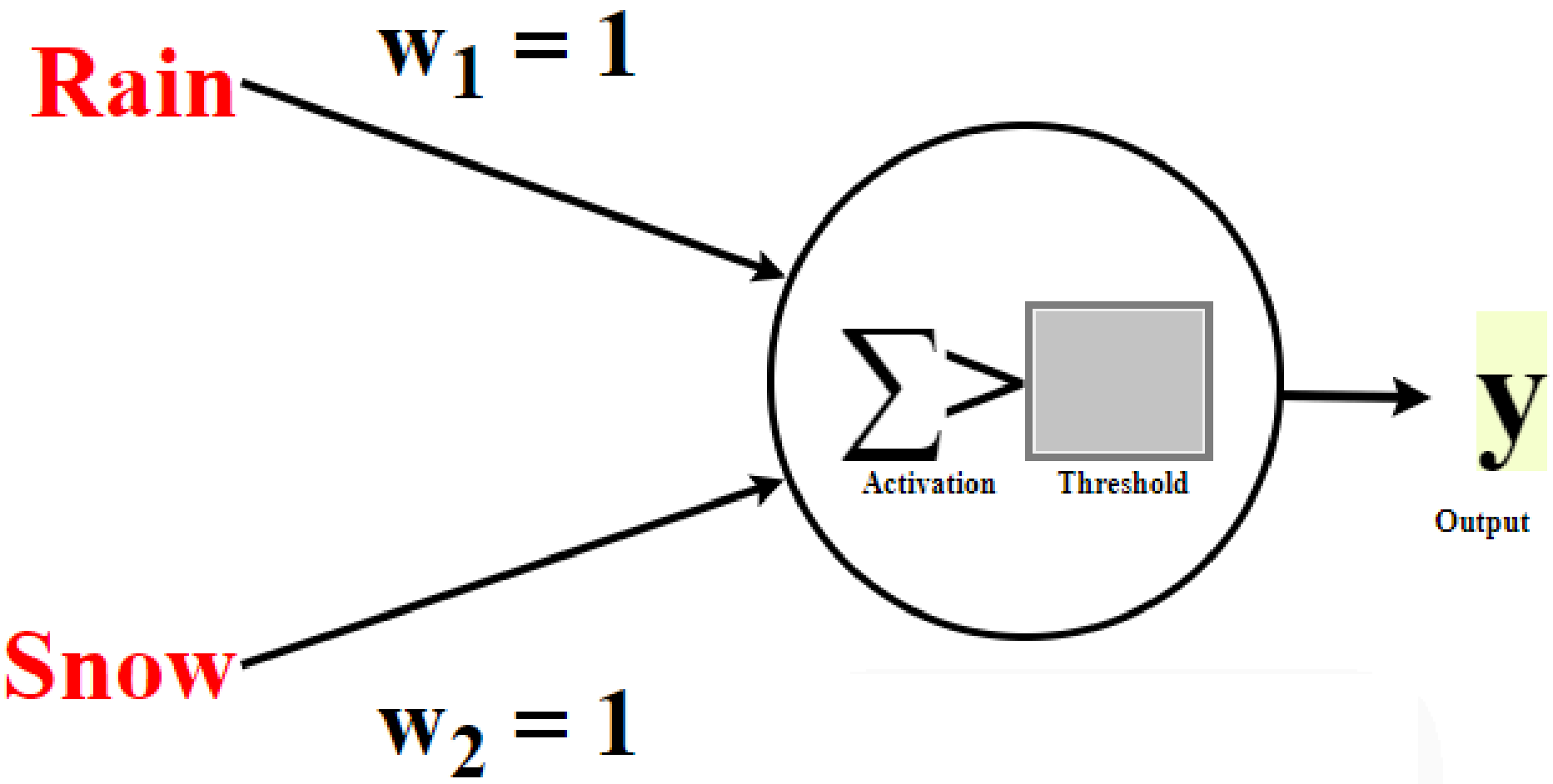
INPUTS		**Compute weighted input 1:**	**Compute weighted input 2:**	**Activation:**	**Do we want the activation to be greater than the threshold?** *This answer should be based on the <u>desired output</u>.*	**Determine the threshold:** *What decimal number is greater than your Ns but less than your Ys?*	**Is activation greater than threshold?** *If the answer doesn't match the 1 or 0 in the <u>desired output</u>, change your threshold*	**Desired Output**
$Input_1$ 0 - Don't have 1 - Have	$Input_2$ 0 - Don't have 1 - Have	$W_1 = 1$ $Input_1 \times W_1 =$ __	$W_2 = 1$ $Input_2 \times W_2 =$ __	Sum of weighted Inputs 1 & 2	(Y or N)	Threshold	Activation > Threshold Write 0 for no and 1 for yes.	0 - no 1 - yes
0	0	__0__ x 1 = 0	__0__ x 1 = 0					
0	1	___ x 1 =___	___ x 1 = ___					
1	0							
1	1							
		B		**C**	**D**	**E**	**F**	**A**

Neuron Sandbox Expanded Worksheet by Will Hanna and Christina Gardner-McCune. This work was funded by National Science Foundation awards DRL-2049029 and DRL-2048502.


Have
Peanut
Butter
$w_1 = 1$
Activation
Threshold
y
Output
Have
Jelly
$w_2 = 1$

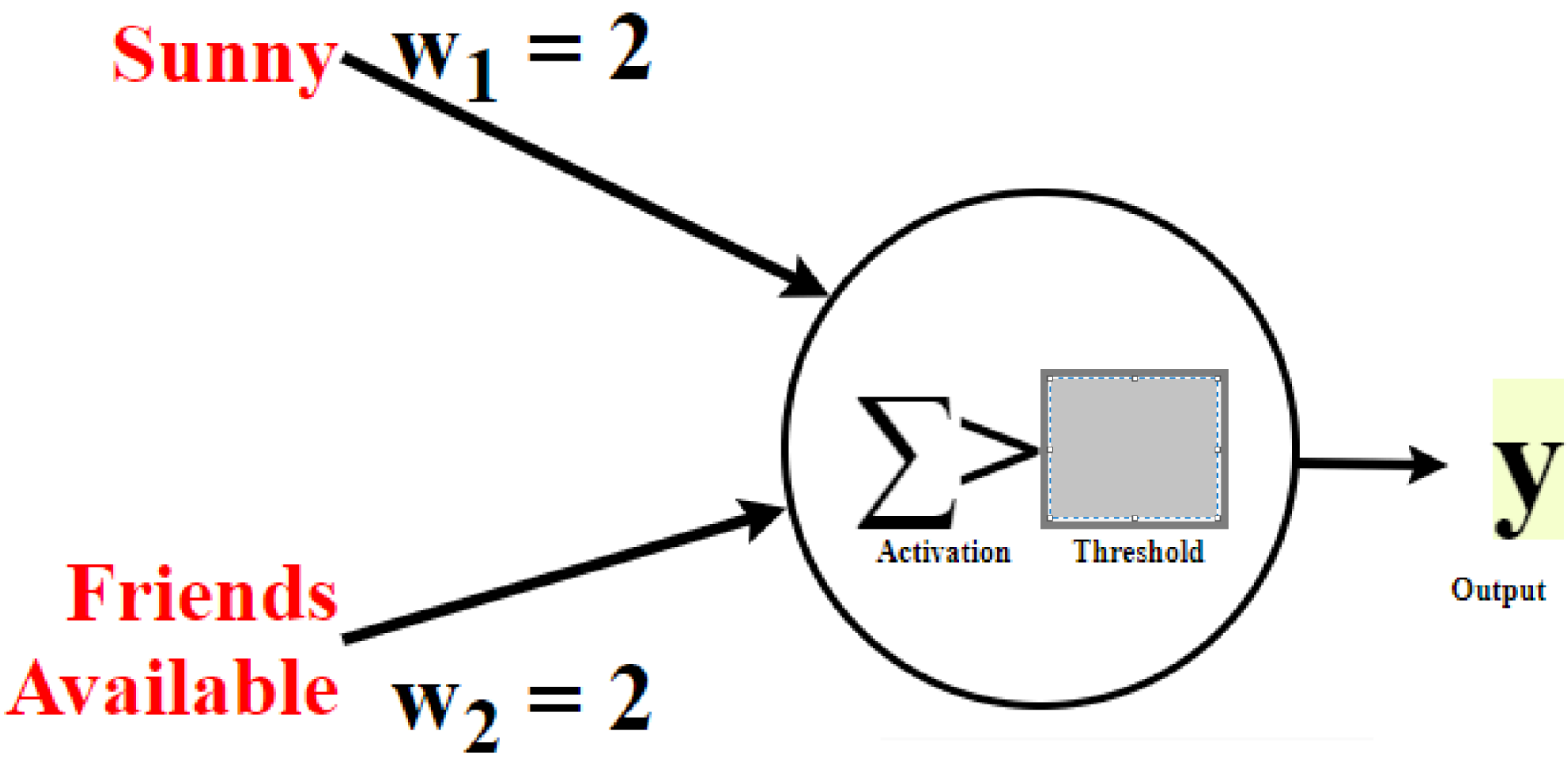
Should I wear boots today? I should wear boots when it is either raining or snowing.

INPUTS		**Compute weighted input 1:**	**Compute weighted input 2:**	**Activation:**	**Do we want the activation to be greater than the threshold?** *This answer should be based on the <u>desired output</u>.*	**Determine the threshold:** *What decimal number is greater than your Ns but less than your Ys?*	**Is activation greater than threshold?** *If the answer doesn't match the 1 or 0 in the <u>desired output</u>, change your threshold*	**Desired Output**
$Input_1$ 0 - Not raining 1 - Raining	$Input_2$ 0 - Not snowing 1 - Snowing	$W_1 = 1$ $Input_1 \times W_1 =$ __	$W_2 = 1$ $Input_2 \times W_2 =$ __	Sum of weighted Inputs 1 & 2	(Y or N)	Threshold	Activation > Threshold Write 0 for no and 1 for yes.	0 - no 1 - yes
0	0	_0_ x 1 =	_0_ x 1 =					
0	1	___ x 1 =__	___ x 1 = __					
1	0							
1	1							
		B		**C**	**D**	**E**	**F**	**A**


Rain
$w_1 = 1$
Activation
Threshold
y
Output
Snow
$w_2 = 1$

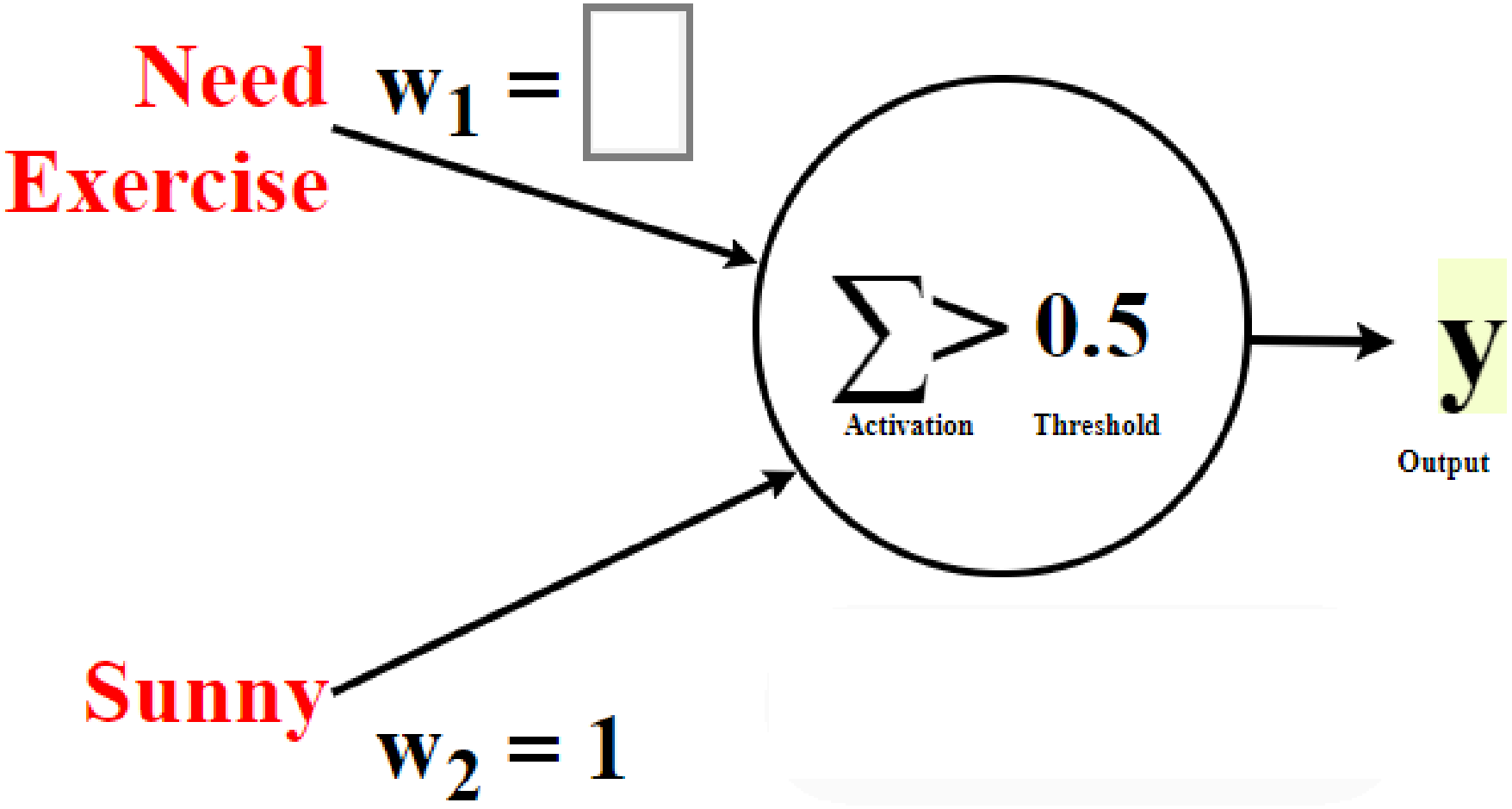
John is planning a picnic with his friends. He wonders if today is a good day for a picnic. It is a good day for a picnic if it is sunny outside and if his friends are available today.

INPUTS		**Compute weighted input 1:**	**Compute weighted input 2:**	**Activation:**	**Do we want the activation to be greater than the threshold?** *This answer should be based on the <u>desired output</u>.*	**Determine the threshold:** *What decimal number is greater than your Ns but less than your Ys?*	**Is activation greater than threshold?** *If the answer doesn't match the 1 or 0 in the <u>desired output</u>, change your threshold*	**Desired Output**
$Input_1$ 0 - Not Sunny 1 - Sunny	$Input_2$ 0 - Friends not available 1 - Friends available	$W_1 = 2$ $Input_1 \times W_1 =$ __	$W_2 = 2$ $Input_2 \times W_2 =$ __	Sum of weighted Inputs 1 & 2	(Y or N)	Threshold	Activation > Threshold Write 0 for no and 1 for yes.	0 - no 1 - yes
0	0	_0_ x 2 =	_0_ x 2 =					
0	1	___ x 2 =__	___ x 2 = __					
1	0							
1	1							
		B		**C**	**D**	**E**	**F**	**A**


Sunny
$w_1 = 2$
Friends
Available
$w_2 = 2$
Activation
Threshold
y
Output

Should I play outside? I would play outside either if I need exercise or if it's sunny.

INPUTS		**Compute weighted input 1:**	**Compute weighted input 2:**	**Activation:**	**Do we want the activation to be greater than the threshold?** *This answer should be based on the desired output.*	**Determine the threshold:** *What decimal number is greater than your Ns but less than your Ys?*	**Is activation greater than threshold?** *If the answer doesn't match the 1 or 0 in the desired output, change your threshold*	**Desired Output**
$Input_1$ 0 - Don't Need Exercise 1 - Need Exercise	$Input_2$ 0 - Not Sunny 1 - Is sunny	**W_1 = ?** $Input_1 \times W_1$ = __	W_2 = 1 $Input_2 \times W_2$= __	Sum of weighted Inputs 1 & 2	(Y or N)	Threshold	Activation > Threshold Write 0 for no and 1 for yes.	0 - no 1 - yes
0	0	_0_ x ??? =	_0_ x 1 =			0.5		
0	1	___ x ?? =__	___ x 1 = __					
1	0							
1	1							
		B		**C**	**D**	**E**	**F**	**A**


Need Exercise
w_1 =
$\sum$ > 0.5
Activation
Threshold
y
Output
Sunny
$w_2 = 1$