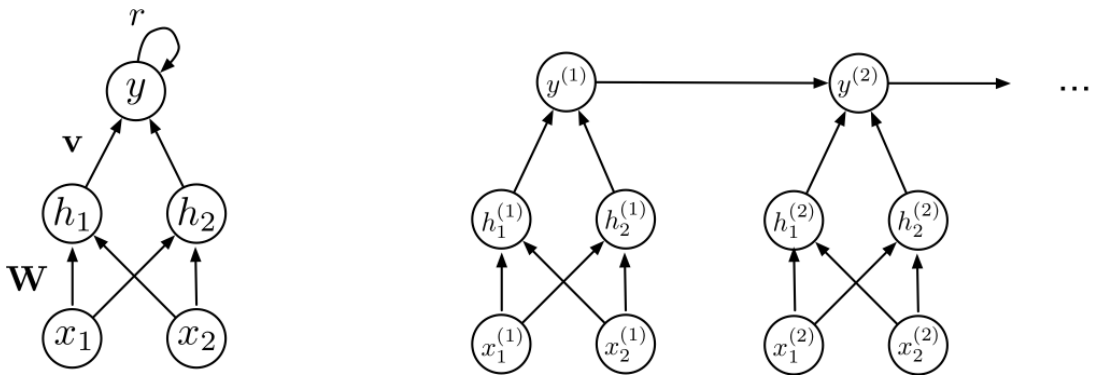
We want to process two binary input sequences with 0-1 entries and determine if they are equal. For notation, let $x_1 = x_1^{(1)}, x_1^{(2)},\ldots,x_1^{(T)}$ be the first input sequence and $x_2 = x_2^{(1)}, x_2^{(2)}, \ldots,x_2^{(T)}$ be the second. We use the RNN architecture shown in the Figure.
[this question is hard to mark]



The corresponding update equations are as follows.

$\mathbf{h}^{(t)}=g(\mathbf{W}\mathbf{x}^{(t)}+\mathbf{b})$	
$y^{(t)}=g(\mathbf{v}^T\mathbf{h}^{(t)}+ry^{(t-1)}+c)$	for t>1
$y^{(t)}=g(\mathbf{v}^T\mathbf{h}^{(t)}+c_0)$	for t=1

Where $\mathbf{v}^T$ is the transpose of vector **v** and the activation function *g* is defined as follows.

$g(z)=1$	for $z > 0$
$g(z)=0$	for $z \leq 0$

Described in words, the parameters are as follows.

W	2x2 weight matrix
b	2-dimensional bias vector
v	2-dimensional weight vector
r	Scalar recurrent weight
c	Scalar bias for all time steps except the first
c_0	Scalar bias for the first time step

I suggest the following strategy for solving this problem.

- At time step *t*, the neural network is fed two inputs $x_1^{(t)}$ and $x_2^{(t)}$.
- Use the two hidden units $h_1^{(t)}$ and $h_2^{(t)}$ to determine if the current inputs match.
- Use the output unit $y^{(t)}$ to compute whether all inputs have matched up to the current time.

Specify parameter values that correctly implement this function, like in the table shown. (You do not have to write your answer in the table). Justify why you think your parameter values are correct.

W	Your solution
b	Your solution
v	Your solution
r	Your solution
c	Your solution
c_0	Your solution