In a recurrent neural network, which units always perform calculations with no interaction with the outside world?

- a. Output units
- b. None of the mentioned
- c. Hidden units
- d. Input units

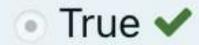
Your answer is incorrect.

The correct answer is:

None of the mentioned

The activation values of the hidden units in a neural network, with the sigmoid activation function applied at every layer, are always in the range (0, 1).

Select one:



False

## What does a neuron compute?

- a. A neuron computes a function g that scales the input x linearly (Wx + b)
- b. A neuron computes the mean of all features before applying the output to an activation function
- c. A neuron computes a linear function (z = Wx 
  + b) followed by an activation function
- d. A neuron computes an activation function followed by a linear function (z = Wx + b)

Which loss function(s) are most commonly used in training classifiers?

- a. Hinge loss
- b. Cross-entropy loss
- c. Mean-absolute error loss
- d. Mean-squared error loss

A two layer (one input layer, one output layer; no hidden layer) neural network can represent the XOR function.

## Select one:

True

False

What is the minimum number of layers required in a feed-forward network for approximating an arbitrary nonlinear function?

- a. 4
- b. 3
- c. 2
- d. 1

What is/are the undisputed advantages of neural networks over other machine learning methods? × They can learn intermediate feature representations of the input b. They are more suited for real time operation c. They extract feature representations optimized for the task × They have the ability to learn by example e. They are more fault tolerant

Your answer is partially correct.

You have selected too many options.

The correct answers are:

They extract feature representations optimized for the task,

They are more suited for real time operation

Suppose you have a multi-class classification problem with three classes, trained with a 3 layer network. Let $a^{(3)}_1 = (h_{\Theta}(x))_1$ be the activation of the first output unit, and similarly $a^{(3)}_2 = (h_{\Theta}(x))_2$ and $a^{(3)}_3 = (h_{\Theta}(x))_3$ . Then for any input x, it must be the case that $a^{(3)}_1 + a^{(3)}_2 + a^{(3)}_3 = 1$ .
Select one:
True X
○ False



None of the mentioned

