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NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Deep Learning - IIT Ropar (course)



Course outline **About** NPTEL () How does an

online course work? ()

NPTEL

Week 1 ()

Week 2 ()

- Linearly Separable Boolean **Functions** (unit? unit=36&lesso n=37)
- Representatio n Power of a Network of Perceptrons (unit? unit=36&lesso n=38)
- Sigmoid Neuron (unit?

Week 2 : Assignment 2

The due date for submitting this assignment has passed.

Due on 2024-08-07, 23:59 IST.

As per our records you have not submitted this assignment.

1) How many boolean functions can be designed for 3 inputs?

1 point

- 8
- **16**
- 256
- 64

No, the answer is incorrect.

Score: 0

Accepted Answers:

256

2) How many weights does a neural network have if it consists of an input layer with 2 neurons, three hidden layers each with 4 neurons, and an output layer with 2 neurons? Assume there are no bias terms in the network.

No, the answer is incorrect.

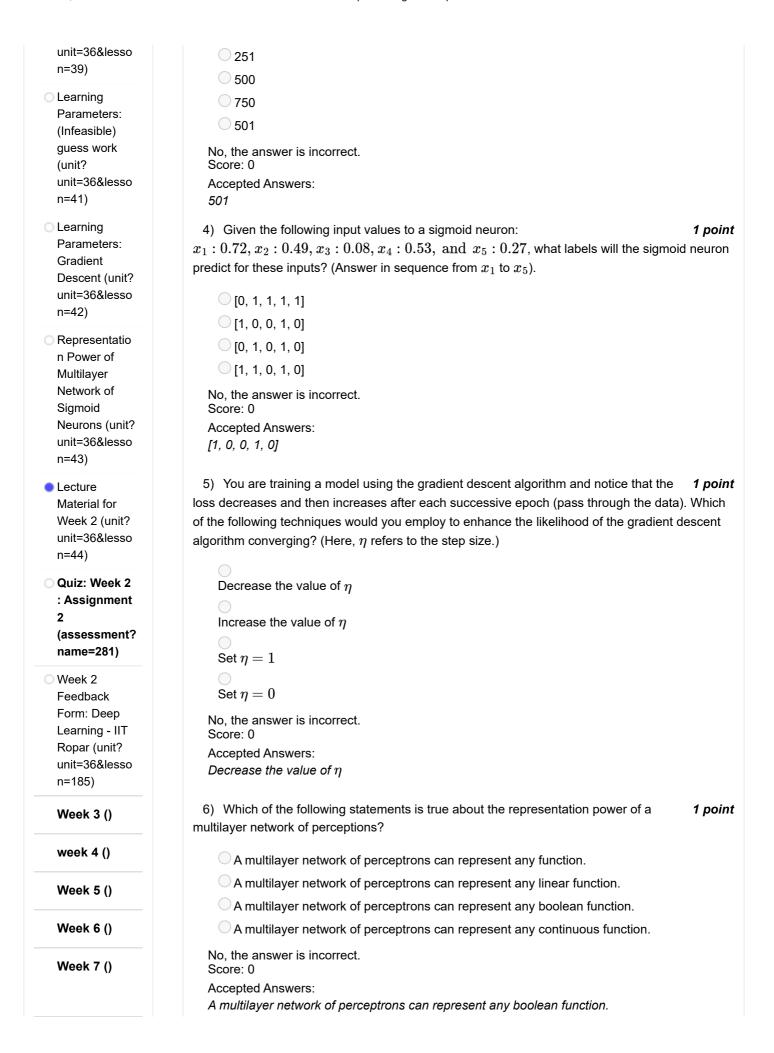
Score: 0

Accepted Answers: (Type: Numeric) 48

1 point

1 point

- 3) A function f(x) is approximated using 250 tower functions. What is the minimum number of neurons required to construct the network that approximates the function?
 - 250
 - 249



Week 8 ()	7) How many boolean functions can be designed for 4 inputs?	1 point
Week 9 ()	O 65,536	
	O 8	
week 10 ()	O 256	
Week 11 ()	O 64	
W 1400	No, the answer is incorrect. Score: 0	
Week 12 ()	Accepted Answers: 65,536	
Download	00,330	
Videos ()	8) How many neurons do you need in the hidden layer of a perceptron to learn any	1 point
Books ()	boolean function with 4 inputs? (Only one hidden layer is allowed)	•
	O 16	
Text	64	
Transcripts	O 56	
0	32	
Problem	No, the answer is incorrect.	
Solving	Score: 0	
Session - July 2024 ()	Accepted Answers: 16	
	9) What happens to the output of the sigmoid function as $ x $ becomes very large for input x?Select all relevant operations	1 point
	☐ The output approaches 0.5	
	☐ The output approaches 1.	
	☐ The output oscillates between 0 and 1.	
	The output approaches 0.	
	No, the answer is incorrect. Score: 0	
	Accepted Answers:	
	The output approaches 1.	
	The output approaches 0.	
	10) Consider a function $f(x)=x^3-3x^2+2.$ What is the updated value of x after 20	
	iteration of the gradient descent update, if the learning rate is 0.1 and the initial value of x	(IS 4?
	No, the answer is incorrect. Score: 0	
	Accepted Answers:	
	(Type: Range) 1.76,1.82	
		1 point