

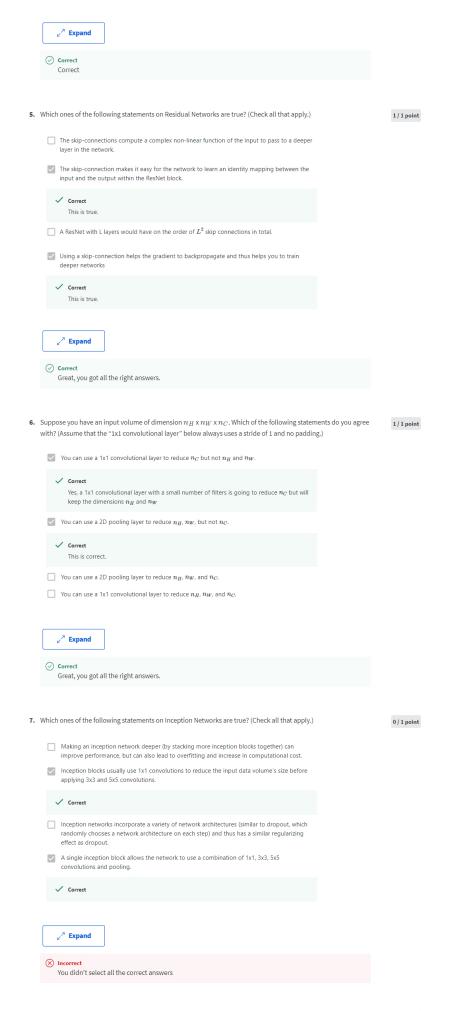
Congratulations! You passed!

Grade received 80%

 \bigcirc 0 and $a^{[l]}$, respectively

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 Which of the following do you typically see in a ConvNet? (Check all that apply.) 	1/1 point
✓ FC layers in the last few layers	
✓ Correct True, fully-connected layers are often used after flattening a volume to output a set of classes in classification.	
☐ FC layers in the first few layers	
Multiple CONV layers followed by a POOL layer	
✓ Correct True, as seen in the case studies.	
Multiple POOL layers followed by a CONV layer	
∠ ⁷ Expand	
 Correct Great, you got all the right answers. 	
 LeNet - 5 made extensive use of padding to create valid convolutions, to avoid increasing the number of channels after every convolutional layer. True/False? 	1 / 1 point
False	
○ True	
∠ ⁿ Expand	
○ Correct Yes, back in 1998 when the corresponding paper of LeNet - 5 was written padding wasn't used.	
 Training a deeper network (for example, adding additional layers to the network) allows the network to fit more complex functions and thus almost always results in lower training error. For this question, assume we're referring to "plain" networks. 	1/1 point
False	
○ True	
∠ ^A Expand	
 Correct Correct, Resnets are here to help us train very deep neural networks. 	
4. The following equation captures the computation in a ResNet block. What goes into the two blanks above?	1 / 1 point
$a^{[l+2]} = g(W^{[l+2]}g(W^{[l+1]}a^{[l]} + b^{[l+1]}) + b^{l+2} + \underline{\hspace{1cm}}) + \underline{\hspace{1cm}}$	
\bigcirc 0 and $z^{[l+1]}$, respectively	
$\bigcup z^{[l]}$ and $a^{[l]}$, respectively	



	learning that you would use to build the model?	
	It is always better to train a network from a random initialization to prevent bias in our model.	
	 Use an open-source network trained in a larger dataset, freeze the softmax layer, and re- train the rest of the layers. 	
	 Use an open-source network trained in a larger dataset. Use these weights as an initial point for the training of the whole network. 	
	 Use an open-source network trained in a larger dataset freezing the layers and re-train the softmax layer. 	
	∠ ⁿ Expand	
9.	Which of the following are true about Depthwise-separable convolutions? (Choose all that apply)	0 / 1 point
	The depthwise convolution convolves each channel in the input volume with a separate filter.	
	✓ Correct Yes, the output of this kind of convolution is the same as the input.	
	$\begin{tabular}{ll} \hline & The depthwise convolution convolves the input volume with 1×1 filters over the depth dimension. \\ \hline \end{tabular}$	
	Depthwise-separable convolutions are composed of two different types of convolutions.	
	$\hfill \square$ The pointwise convolution convolves the output volume with 1×1 filters.	
	∠ ² Expand	
	Nucorrect You didn't select all the correct answers	
10	a. Suppose that in a MobileNet v2 Bottleneck block we have an $n \times n \times 5$ input volume, we use 30 filter expansion, in the depthwise convolutions we use 3×3 filters, and 20 filters for the projection. How m parameters are used in the complete block, suppose we don't use bias?	
	() 8250	
	1020	
	O 1101	
	○ 80	
	∠ ⁷ Expand	
	Correct Yes, the expansion filters use 5 × 30 = 150 parameters, the depthwise convolutions need 3 × 3 × 30 parameters, and the projection part 30 × 20 = 600 parameters.	= 270
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