← **Neural Networks: Learning**
Quiz, 5 questions   **5/5 points (100%)**

✔ **Congratulations! You passed!** | Next Item |

✔   1.   You are training a three layer neural network and would like to use backpropagation to
1 / 1   compute the gradient of the cost function. In the backpropagation algorithm, one of the steps
points   is to update

$$\Delta_{ij}^{(2)} := \Delta_{ij}^{(2)} + \delta_i^{(3)} * \left(a^{(2)}\right)_j$$

for every i, j. Which of the following is a correct vectorization of this step?

✔   2.   Suppose `Theta1` is a 5x3 matrix, and `Theta2` is a 4x6 matrix. You set
1 / 1   `thetaVec = [Theta1(:); Theta2(:)]`. Which of the following correctly recovers `Theta2`
points   ?

✔   3.   Let $J(\theta) = 3\theta^4 + 4$. Let $\theta = 1$, and $\epsilon = 0.01$. Use the formula $\frac{J(\theta+\epsilon) - J(\theta-\epsilon)}{2\epsilon}$ to numerically
1 / 1   compute an approximation to the derivative at $\theta = 1$. What value do you get? (When $\theta = 1$,
points   the true/exact derivative is $\frac{dJ(\theta)}{d\theta} = 12$.)

✔   4.   Which of the following statements are true? Check all that apply.
1 / 1
points

✔   5.   Which of the following statements are true? Check all that apply.
1 / 1
points

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