coursera

☞ @ongratulations! You passed!

	Grade received 100% Latest Submission Grade 100% To pass 80% or higher	
	Quiz Go to next item	
	Clustering Clustering	
	coach Beta	
1.	Which of these best describes unsupervised learning ady to review what you've learned before taking the quiz? I'm here to help.	1/1 point
	○ A form of machine learning that finds patterns withodels mg predictunction. Let's chat	
	A form of machine learning that finds patterns using unlabeled data (x).	
	O A form of machine learning that finds pattern suttern sutte	
	○ A form of machine learning that finds patter	
	 Correct Try again Unsupervised learning uses unlabeled data. The training examples do not have targets or labels "y". Recall the T-shirt example. The data was height and weight but no target size. 	
2.	To Pass 80% or higher	1/1 point
	Which of these statements are true about K-means? Check all that apply.	
	Your grade If you are running K-means with $K=3$ cluster the neach $c^{(i)}$ should be 1, 2, or 3.	
	○ Correct	
	$c^{(i)}$ describes which centroid example(i) is assigned to. If $K=3$, then $c^{(i)}$ would be one of 1,2 or 3 assuming counting starts at 1.	
	✓ The number of cluster assignment variables Weit \seta \text{SexQVIII high the from ber of training examples.}	
	\bigcirc Correct $c^{(i)}$ describes which centroid example (i) is assigned to.	
	∆ Like ♀ Dislike ⊨ Report an issue	
	☐ The number of cluster centroids μ_k is equal to the number of examples. ✓ If each example x is a vector of 5 numbers, then each cluster centroid μ_k is also going to be a vector of 5 numbers.	
	 ii each example x is a vector of 3 numbers, then each cluster centroid \(\rho_k\) is also going to be a vector of 3 numbers. © Correct 	
	The dimension of μ_k matches the dimension of the examples.	
,		
3.		1 / 1 point
	You run K-means 100 times with different initializations. How should you pick from the 100 resulting solutions?	
	O Pick randomly that was the point of random initialization.	
	(a) Pick the one with the lowest cost J	
	Pick the last one (i.e., the 100th random initialization) because K-means always improves over time Average all 100 solutions together.	
	 Correct K-means can arrive at different solutions depending on initialization. After running repeated trials, choose the solution with the lowest cost. 	
4.	You run K-means and compute the value of the cost function $J(c^{(1)},\ldots,c^{(m)},\mu_1,\ldots,\mu_K)$ after each iteration. Which of these statements should be true?	1/1 point
	The cost will either decrease or stay the same after each iteration	
	O There is no cost function for the K-means algorithm.	
	The cost can be greater or smaller than the cost in the previous iteration, but it decreases in the long run.	
	Because K-means tries to maximize cost, the cost is always greater than or equal to the cost in the previous iteration.	
	⊘ Correct	
	The cost never increases. K-means always converges.	
5.	In K-means, the elbow method is a method to	1 / 1 point
	Choose the best number of samples in the dataset	
	Choose the maximum number of examples for each cluster	
	Choose the number of clusters K	
	Choose the best random initialization	
	○ Correct	
	The elbow method plots a graph between the number of clusters K and the cost function. The 'bend' in the cost curve can suggest a natural value for K. Note that this feature may not exist or be significant in some data sets.	coach 🐵