Feedback — I. Introduction Help

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You submitted this quiz on **Mon 5 Jan 2015 7:09 PM PST**. You got a score of **5.00** out of **5.00**. However, you will not get credit for it, since it was submitted past the deadline.

Question 1

A computer program is said to learn from experience E with respect to some task T and some performance measure P if its performance on T, as measured by P, improves with experience E. Suppose we feed a learning algorithm a lot of historical weather data, and have it learn to predict weather. In this setting, what is E?

Your Answer		Score	Explanation
○None of these.			
○The weather prediction task.			
○The process of the algorithm examining a large amount of historical weather data.	Correct	1.00	It is by examining the historical weather data that the learning algorithm improves it's performance, so this is the experience E.
○The probability of it correctly predicting a future date's weather.			
Total		1.00 / 1.00	

Question 2

Suppose you are working on weather prediction, and you would like to predict whether or not it will be raining at 5pm tomorrow. You want to use a learning algorithm for this. Would you treat this as a classification or a regression problem?

Your Answer		Score	Explanation
○Classification	Correct	1.00	Classification is appropriate when we are trying to predict one of a small number of discrete-valued outputs, such as whether it will rain (which we might designate as class 0), or not (say class 1).
○Regression			
Total		1.00 / 1.00	

Question 3

Suppose you are working on stock market prediction. You would like to predict whether the US Dollar will go up against the Euro tomorrow (i.e., whether a dollar will be worth more euros tomorrow than it is worth today). Would you treat this as a classification or a regression problem?

Your Answer		Score	Explanation
⊙Classification	Correct	1.00	Classification is appropriate when we are trying to predict one of a small number of discrete-valued outputs. Here, there are two possible

			outcomes: That the US Dollar goes up (which we might designate as class 0, say) or that it does not (class 1).
○Regression			
Total	1.00 / 1.00		

Question 4

Some of the problems below are best addressed using a supervised learning algorithm, and the others with an unsupervised learning algorithm. Which of the following would you apply supervised learning to? (Select all that apply.) In each case, assume some appropriate dataset is available for your algorithm to learn from.

Your Answer	Score		Explanation
☒Have a computer examine an audio clip of a piece of music, and classify whether or not there are vocals (i.e., a human voice singing) in that audio clip, or if it is a clip of only musical instruments (and no vocals).	Correct	0.25	This can be addressed using supervised learning, in which we learn from a training set of audio clips which have been labeled as either having vocals or not.
☒In farming, given data on crop yields over the last 50 years, learn to predict next year's crop yields.	Correct	0.25	This can be addresses as a supervised learning problem, where we learn from historical data (labeled with historical crop yields) to predict future crop yields.
☐Given a large dataset of medical records from patients suffering from heart disease, try to learn whether there might be different clusters of such patients for which we might tailor separate treatements.	Correct	0.25	This can be addressed using an unsupervised learning, clustering, algorithm, in which we group patients into different clusters.
☐Given data on how 1000 medical patients respond to an experimental drug (such as effectiveness of the treatment, side effects, etc.), discover whether there are different categories or "types" of patients in terms of how they respond to the drug, and if so what these categories are.	Correct	0.25	This can be addressed using an unsupervised learning, clustering, algorithm, in which we group the 1000 patients into different clusters based on their responses to the drug.
Total		1.00 / 1.00	

Question 5

Which of these is a reasonable definition of machine learning?

Your Answer	Score		Explanation
⊙Machine learning is the field of study that gives computers the ability to learn without being explicitly programmed.	Correct	1.00	This was the definition given by Arthur Samuel (who had written the famous checkers playing, learning program).
○Machine learning is the science of programming computers.			
○Machine learning is the field of allowing			

robots to act intelligently.

○Machine learning means from labeled data.

Total	1.00 / 1.00