Feedback — I. Introduction

You submitted this quiz on **Wed 30 Oct 2013 11:21 AM PDT (UTC -0700)**. You got a score of **4.00** out of **5.00**. You can attempt again in 10 minutes.

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. What would be a reasonable choice for P?

Your Answer		Score	Explanation
⦿ The probability of it correctly predicting a future date's weather.	✔	1.00	This would be a reasonable measure P of measuring our weather predictions' accuracy.
⦾ None of these.			
⦾ The weather prediction task.			
⦾ The process of the algorithm examining a large amount of historical weather data.			
Total		1.00 / 1.00	

Question 2

Suppose you are working on weather prediction, and use a learning algorithm to predict tomorrow's temperature (in degrees Centigrade/Fahrenheit). Would you treat this as a classification or a regression problem?

Your	Score	Explanation

Answer

⦿ Regression	✔	1.00	Regression is appropriate when we are trying to predict a continuous-valued output, such as the temperature.
⦾ Classification			
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
⦿ Regression	✖	0.00	Regression is appropriate when we are trying to predict a continuous-valued output. 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).
⦾ Classification			
Total		0.00 / 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
☑ Examine the statistics of two football teams, and predicting which team will win tomorrow's match (given historical data of teams' wins/losses to learn from).	✔ 0.25	This can be addressed using supervised learning, in which we learn from historical records to make win/loss predictions.
☑ 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).	✔ 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.
☐ 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.	✔ 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	✔ 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.

categories are.

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.	✔	1.00	This was the definition given by Arthur Samuel (who had written the famous checkers playing, learning program).
⦾ Machine learning is the field of allowing robots to act intelligently.			
⦾ Machine learning is the science of programming computers.			
⦾ Machine learning means from labeled data.			
Total		1.00 / 1.00	