Feedback — I. Introduction

You submitted this quiz on **Thu 13 Mar 2014 9:04 PM PDT**. You got a score of **5.00** out of **5.00**.

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 Answer	Score	Explanation
⦿ 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, Typically tens of millions of shares of Microsoft stock are traded (i.e., bought/sold) each day. You would like to predict the number of Microsoft shares that will be traded tomorrow. Would you treat this as a classification or a regression problem?

Your Answer	Score	Explanation
○ Classification		
⦿ Regression	✔ 1.00	Regression is appropriate when we are trying to predict a continuous-valued output. Even though the number of shares traded is technically discrete-valued (i.e., an integer), it would be more natural to treat it as a continuous value (similar to the housing prices example in the lecture).
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
☐ Take a collection of 1000 essays written on the US Economy, and find a way to automatically group these essays into a small number of groups of essays that are somehow "similar" or "related".	✔ 0.25	This is an unsupervised learning/clustering problem (similar to the Google News example in the lectures).
☑ Given genetic (DNA) data from a person, predict the odds of him/her developing diabetes over the next 10 years.	✔ 0.25	This can be addressed as a supervised learning, classification, problem, where we can learn from a labeled dataset comprising different people's genetic data, and labels telling us if they had developed diabetes.
☐ 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.	✔ 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.
☑ Examine a web page, and classify whether the content on the web page	✔ 0.25	This can be addressed as a supervised learning, classification, problem, where we can learn from a dataset of web pages that have been labeled as "child friendly" or "adult."

should be considered
"child friendly" (e.g.,
non-pornographic,
etc.) or "adult."

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 allowing robots to act intelligently.		
○ Machine learning means from labeled data.		
○ Machine learning is the science of programming computers.		
◉ 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).
Total	1.00 / 1.00	