# Feedback — I. Introduction

Help Center

You submitted this quiz on **Fri 23 Jan 2015 2:14 PM CET**. 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. In this setting, what is E?

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

## Question 2

The amount of rain that falls in a day is usually measured in either millimeters (mm) or inches. Suppose you use a learning algorithm to predict how much rain will fall tomorrow. Would you treat this as a classification or a regression problem?

| Your Answer | | Score | Explanation |
|---|---|---|---|
| | ✔ | 1.00 | Regression is appropriate when we are trying to predict a |

| | | |
|---|---|---|
| Regression | | continuous-valued output, such as the amount of rainfall measured in inches or mm. |
| 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 | | | |
| Classification | ✔ | 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). |
| 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 |
|---|---|---|---|
| ☑ In farming, given data on crop yields over the last 50 years, learn to predict next year's crop | ✔ | 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. |

| | | | |
|---|---|---|---|
| yields. | | | |
| ☑ Given historical data of childrens' ages and heights, predict children's height as a function of their age. | ✔ | 0.25 | This is a supervised learning, regression problem, where we can learn from a training set to predict height. |
| ☐ Examine a large collection of emails that are known to be spam email, to discover if there are sub-types of spam mail. | ✔ | 0.25 | This can addressed using a clustering (unsupervised learning) algorithm, to cluster spam mail into sub-types. |
| ☐ 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. |
| Total | | 1.00 / 1.00 | |

# Question 5

Which of these is a reasonable definition of machine learning?

| Your Answer | | Score | Explanation |
|---|---|---|---|
| ○ Machine learning means from labeled data. | | | |
| ○ Machine learning is the science of programming computers. | | | |
| ○ Machine learning is the field of allowing robots to act intelligently. | | | |
| ◉ Machine learning is the field of | ✔ | 1.00 | This was the definition given by Arthur |

| | | |
|---|---|---|
| study that gives computers the ability to learn without being explicitly programmed. | | Samuel (who had written the famous checkers playing, learning program). |
| Total | 1.00 / 1.00 | |