Artificial Intelligence: Exercise 2

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Week 2

1. Classify each of the following as examples of either inductive learning or deductive reasoning. Justify your answer.
   (a) Using a combinatorial algorithm to find the shortest path on a map from one point to another.
   (b) Using past experience at driving in the city to construct the shortest path from one point to another.
   (c) Making a move in tic-tac-toe based on the outcomes of moves made in the past in similar positions.
   (d) Classifying a machined slab as defective or non-defective by comparing its measurements with those of other defective and non-defective slabs.
   (e) Classifying a machined slab as defective or non-defective by comparing its measurements with a set of ideal measurements.
2. Suppose that it is identified by an astute data scientist that spam emails often have the words "Free Money" embedded in them. Subsequently, the data scientist implements a system that identifies spam emails by removing all emails containing both these words. Discuss why this process involves both inductive learning and deductive reasoning.