COMS 3007
Tutorial 1

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1. (a) Supervised learning (Classification); this is because we need to teach our algorithm to identify glasses.

   (b) Reinforcement learning. Because we want to win the game with minimum moves and thus greater reward.

   (c) Supervised learning (Classification); our algorithm needs to learn the different types of vehicles.

   (d) Supervised learning (Classification); the judgement of a court case is based on the previous court case's verdict. (Training Data).

   (e) Supervised learning (Classification); the student will either pass or fail based on the marks they've been getting throughout the semester.

   (f) Supervised learning (Classifiction); we first need to know the living condtitions of the patient, then we can come up with the best plan.

   (g) Reinforcement learnng. The game should be able to by interacting with the other player.

   (h) Supervised learning (Regression). BitCoin price is continuous and to predict its price we need to know previous prices.

2. Facebook ads. Facebook shows me ads based on the sites I have been looking and the types of pages I have liked.

3. Pick and Pay Smart shopper. They learn everytime I swipe my smart shopper card what items I like to buy. Sometimes with that information they give me special offers on selected items.

4. (a) Physical Classification

      i. Sound.
      ii. Teeth.
      iii. Body size.
      iv. Eyes.
      v. Ears.
      vi. Walk.
      vii. Face.
      viii. Posture.

   (b) Image Classification

      i. Ears.
      ii. Eyes.
      iii. Face.
      iv. Teeth.
      v. Posture.

   (c) Predicting the flight speed of a bird.

      i. Size of wings.
      ii. Distance from the ground.
      iii. Size of the bird.
      iv. Size of limbs.

(d) Predicting student performance.
    i. Number of submissions.
    ii. Class attendance.
    iii. Class participation.
    iv. Hours spend studying.
    v. Class participation.
(e) Classifying Songs by Genre
    i. Tempo
    ii. Pitch
    iii. BPM
    iv. Instruments
    v. Artist
(f) Predict winning team.
    i. Games Won
    ii. Coach
    iii. Striker
    iv. Defence Strength
(g) Predict number of chocolate sales
    i. Price
    ii. Size