**What is the difference between supervised and unsupervised machine learning?. Which of the following statements are true?**

1. Supervised learning problems can be grouped into clustering and association.
2. Supervised learning is used when we want to predict a certain outcome from a given input.
3. The goal for unsupervised learning is to model the underlying structure or distribution in the data.
4. There are two major types of supervised learning problems, called clustering and regression.

Ans:2,3

**Select which of the following scenarios are regression problems.**

1. Predict how much a company will spend on electricity the next semester.
2. Predict the score that a student will achieve in an exam whose grade can be 0.1, 2,. . . , 10
3. Predict whether a user will churn from the service.
4. Given a tweet, determine whether or not it contains text against or on favor for a presidential candidate.

Ans:2,1

**Select which of the following scenarios are classification problems.**

1. Impact of blood alcohol content on coordination
2. An algorithm is trained to recognize spam email by learning the characteristics of what constitutes spam vs non-spam email.
3. Determine whether a customer is likely to purchase more items or not
4. Predict the prices of a house in Boston based on zipcode, neighbourhood, the per capita crime rate by town, etc

Ans:2,3

**Suppose you want to develop a supervised machine learning model to predict whether a superhero will fly or not. Which of the following statements are true?**

1. A classification model provide the best approach.
2. A regression model is the best way to predict the probability to fly.
3. This is not a machine learning problem
4. We'll use unlabeled examples to train the model.

Ans:1