**SMP\_ML\_ASSIGNMENT\_1 Answers**

1. ***Scenario :***

Let’s say you are in 2199 A.D. and your mom told you to go to market and fetch one kilogram of Alphonso mango. Now you are too exhausted after playing a FIFA99 match and don’t want to go anywhere. So you told your robot to do the work for you and deliver the mangoes to you. So you have to train your robot.

**Machine Learning :**

Machine Learning is a set of learning algorithm that is being used in today's world as state-of-the-art ways to build an intelligent machine. This set of algorithms are frequently used because they require less data and are easily comprehensible than Deep Learning.

Now coming to the scenario, your robot has reached fruit shop which has apple,mango and orange. Now differentiating between mango from orange, apple etc., is machine learning. For this you can train your robot with size(weight) and color(0 for orange, 1 for red and 2 for yellow), and your robot can fetch mangoes for you.

**Deep Learning:**

Deep Learning is a sub-type of learning, but here we take the learning to a step deeper. So you’ll need more data and data of more attributes than machine learning.

In this scenario, detecting Alphonso mango from other mango varieties(which looks almost same in size and color) is Deep Learning. Your mom said to bring Alphonso and you can’t bring any mango to complete your job.

**AI :**

AI in it’s true sense means to mimic human intelligence. And learning is one of the steps of intelligence. What to do with the insights gained from learning is AI.

Now after your robot picked one kilogram of Alphonso it should be able to realize that he has completed the job and he need to return to home without damaging the mangoes. After reaching home he should deliver it to you, not to your mom so that you can get appraisal and a good mango shake from your mom.

1. **B and C is the answer.**

B)Given a set of news articles found on the web, group them into sets of articles about the same stories.

C)Given a database of customer data, automatically discover market segments and group customers into different market segments.

They are unsupervised as they can be grouped into different clusters .

1. **A and D is the answer**

A)In farming, given data on crop yields over the last 50 years, learn to predict next year's crop yields.

D)Examine a web page, and classify whether the content on the web page should be considered "child friendly" (e.g., non-pornographic, etc.) or "adult."

This both are examples of supervised learning as we can learn from a dataset which has different types of data

1. **Classification**

This is classification because we are trying to predict if it will rain or not, so we classify it into 2 different outputs, one where it will rain and other where it will not.