1. 1. In this case, you need K-means algorithm because it works on unlabeled numerical data. K-means clustering is one of the simplest and popular unsupervised machine learning algorithms. Typically, unsupervised algorithms make inferences from datasets using only input vectors without referring to known, or labelled, outcomes. A cluster refers to a collection of data points aggregated together because of certain similarities. So, value of K = 3 as we are asked to separate 2,000 unlabeled into 3 groups so, **three** clusters will be formed.

K-means clustering is an extensively used technique for data cluster analysis. It is easy to understand, especially if you accelerate your learning using a K-means clustering tutorial. Furthermore, it delivers training results quickly.

4) Supervised Learning:

Supervised learning algorithms are trained using labeled data.

Supervised learning model takes direct feedback to check if it is predicting correct output or not.

Supervised learning model predicts the output.

Supervised learning needs supervision to train the model.

Supervised learning can be categorized in Classification and Regression problems.

Supervised learning can be used for those cases where we know the input as well as corresponding outputs.

Supervised learning model produces an accurate result.

Supervised learning is not close to true Artificial intelligence as in this, we first train the model for each data, and then only it can predict the correct output.

The goal of supervised learning is to train the model so that it can predict the output when it is given new data.

It includes various algorithms such as Linear Regression, Logistic Regression, Support Vector Machine, Multi-class Classification, Decision tree, Bayesian Logic, etc.

2) Unsupervised Learning:

In supervised learning, input data is provided to the model along with the output.

Unsupervised learning algorithms are trained using unlabeled data.

Unsupervised learning model does not take any feedback.

Unsupervised learning model finds the hidden patterns in data.

In unsupervised learning, only input data is provided to the model.

The goal of unsupervised learning is to find the hidden patterns and useful insights from the unknown dataset.

Unsupervised learning does not need any supervision to train the model.

Unsupervised Learning can be classified in Clustering and Associations problems.

Unsupervised learning can be used for those cases where we have only input data and no corresponding output data.

Unsupervised learning model may give less accurate result as compared to supervised learning.

Unsupervised learning is more close to the true Artificial Intelligence as it learns similarly as a child learns daily routine things by his experiences.

It includes various algorithms such as Clustering, KNN, and Apriori algorithm.