Assignment 1:

Question 1 > Answer

a)

1. Facial recognition is a **classification** problem/algorithm because target values are categorized into different groups for example say different races, male/female. It is not regression because it does not hold specific value for its target.
2. Mobile price prediction is a **regression** problem because target, i.e price of mobile will be specific value.
3. Credit card fraud detection will be **classification** problem/algorithm because it will be classified as fraud detected or fraud not detected
4. Customer churn prediction is **classification** problem where target can be a probability of yes or no for churning.

b)

Regression problems are a type of supervised learning where output or target variable is a continues value. (any ream number value) –

For example – Predicting the price of house with the given different features like size, locality, etc

Classification problems are also a type of supervised learning where output is from set of some groups or categories or in other words outcome can take ant discrete value (finite or countable values)

For example – Predicting the employability of students based on features like CGPA, communication skills etc

Clustering is type of unsupervised learning where there is no initial data/labels provided (for example training data and testing data), outcomes are divided into clusters or groups of similar data points.

For example – A classroom full of students and we cluster students based on their result levels, based on their subject interest or based on years of experience.

Another example for clustering could be market segmentation.