Question2:

When using a standard machine learning (ML) pipeline, a series of clearly defined processes are usually followed with the goal of converting unprocessed data into a deployable model. The first steps in the procedure are data collection and preprocessing, which involve gathering, cleaning, and transforming raw data (e.g., handling missing values, normalization, and feature scaling). The next phase is feature engineering, which helps to extract relevant variables that can enhance model performance. The next stage is modeling, when various methods (such neural networks and decision trees) are tested and taught. Optimizing the model's performance through hyper parameter tuning is a crucial aspect of this phase. After a model is chosen, it is evaluated using metrics like accuracy, precision, and recall or methods like cross-validation. The trained model is incorporated into production systems for practical application during the last stage, known as model deployment. The pipeline frequently consists of maintenance to update or retrain models as needed, as well as monitoring to track model performance. This methodical methodology makes sure that every stage is handled in a methodical manner, which makes machine learning projects more repeatable and scalable.