Project Title: Classifying The Credit Scores

Problem Statement:

As a data scientist in a global finance company, your objective is to develop a machine learning model that predicts individuals' credit scores based on their financial and credit-related information. The company aims to automate and enhance the credit scoring process using intelligent systems.

Task:

1. Dataset Download:

- Obtain the dataset containing relevant credit-related information.

- Highlight the features, including income, outstanding debt, credit history, etc.

- Identify the target variable: `Credit_Score`.

2. Data Exploration and Preprocessing:

- Conduct exploratory data analysis (EDA) to understand the distribution of features and the target variable.

- Handle any missing values, outliers, or data inconsistencies.

- Encode categorical variables if necessary.

- Explore the distribution of the target variable.

3. Model Selection:

- Choose suitable machine learning classification models for predicting credit scores. Suggested models include:

  - Logistic Regression

  - Random Forest Classifier

- Support Vector Machine (SVM)

- Gradient Boosting Classifier (e.g., XGBoost)

4. Model Training:

- Train each selected model using the training dataset.

- Utilize evaluation metrics suitable for classification tasks, such as accuracy, precision, recall, F1 score, and confusion matrix.

5. Hyperparameter Tuning:

- Conduct hyperparameter tuning for at least one model using methods like Grid Search or Random Search.

- Explain the chosen hyperparameters and the reasoning behind them.

6. Model Evaluation:

- Assess the performance of each model on the testing set.

- Discuss the strengths and limitations of each model in the context of credit score classification.

7. Interpretability:

- If applicable, explore methods to interpret the model's decisions and understand the factors influencing credit score classifications.

9. Code Submission:

- Share well-commented and organized code for each phase of the project.

- Submit both the code and comprehensive documentation for review.