1. **Gradient Boosting Regression on the California Housing Dataset**
    - **Dataset**: Use the *California Housing Dataset* from `sklearn.datasets`.
    - **Tasks**:
        1. Load and split the dataset into training and testing sets (70% train, 30% test).
        2. Initialize a Gradient Boosting Regressor with `n_estimators=200` and experiment with `learning_rate` values of 0.01, 0.1, and 0.2.
        3. For each learning rate, train the model and evaluate it using Mean Squared Error (MSE) and R^2 score.
        4. Plot MSE as a function of the number of boosting iterations for each learning rate.
        5. Summarize how learning rate impacts model performance, explaining underfitting or overfitting at different rates.

2. **Gradient Boosting Classification on the Wine Quality Dataset**
    - **Dataset**: Use the *Wine Quality Dataset* from the UCI repository or Kaggle.
    - **Tasks**:
        1. Load the Wine Quality dataset, and convert the `quality` column into a binary classification: "high" (≥ 7) and "low" (< 7).
        2. Split the data into training and testing sets (75% train, 25% test).
        3. Initialize a Gradient Boosting Classifier with `n_estimators=150`.
        4. Experiment with different `max_depth` values (`max_depth=2`, `max_depth=4`, and `max_depth=6`) and evaluate each model using accuracy and F1-score.
        5. Display feature importance and create a bar plot of the most influential features.
        6. Explain how tree depth affects model performance and discuss which features are most predictive of wine quality.

3. **Gradient Boosting with Early Stopping on Breast Cancer Dataset**
    - **Dataset**: Use the *Breast Cancer Dataset* from `sklearn.datasets`.
    - **Tasks**:
        1. Load the Breast Cancer dataset and split it into training, validation, and testing sets (60% train, 20% validation, 20% test).
        2. Train a Gradient Boosting Classifier with `n_estimators=500` and `learning_rate=0.1`, using the validation set for early stopping.
        3. Use early stopping criteria based on validation accuracy with a patience of 20 rounds.
        4. Compare the test accuracy, F1-score, and number of iterations with and without early stopping.
        5. Summarize the effect of early stopping on performance and training time.