# Assignment 2: Text Preprocessing and Classification

In this assignment, you will preprocess text data and build a text classification model using the preprocessed features.

##

Tasks- :

Text Preprocessing: Perform text preprocessing steps including stopwords removal, tokenization, stemming, lemmatization, and POS tagging.

Feature Engineering: Convert the preprocessed text into feature representations such as TF-IDF vectors, one-hot encoding, bag of words, unigram, bigram, and n-

- gram.

Text Classification: Build a text classification model using any classification algorithm of your choice (e.g., Naive Bayes, SVM, Logistic Regression).

Model Evaluation: Evaluate the classification model using appropriate evaluation metrics such as accuracy, precision, recall, and F1

- -score.

Dataset:

Use a labeled text classification dataset such as a sentiment analysis dataset, spam email dataset, or any other text classification ## dataset.

Deliverables:

Write a Python script that performs the above tasks on the given text classification dataset. Include comments to explain each step clearly. Train and evaluate your classification model on the dataset and report the performance metrics.

report the performance metrics.