Implementing Text Preprocessing for NLP in Python

**Objective**: The goal of this assignment is to familiarize you with the fundamental text preprocessing steps used in Natural Language Processing.

You will write Python scripts to perform each of the following tasks:

**A. Stopword Removal:**

Use NLTK to remove stopwords from the following text:  
  
*"Data science is an interdisciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from noisy, structured and unstructured data."*

Output the cleaned text.

**B. Punctuation Removal:**

Write a Python function to remove all punctuation from the provided text using the string library.

Test your function on this sentence:

*"Hello, world! This is an example sentence... isn't it?"*

**C. Text Normalization and Lemmatization:**

Employ spaCy to normalize and lemmatize the following paragraph:

*"The boys' cars are different colors. One is silver whereas the other is gold."*

Display the lemmatized form of each word.

**D. Part of Speech Tagging:**

Apply NLTK to perform Part of Speech tagging on the sentence:

*"The quick brown fox jumped over the lazy dogs."*

List the words along with their corresponding Part of Speech tags.

**E. Tokenization:**

Utilize NLTK to tokenize the following text into sentences and then into words:

*"Natural language processing bridges the gap between computers and humans. It involves understanding and generating the languages that humans naturally use."*

Present the list of sentences followed by the list of words.

**Deliverables:**

1. A Python script (.py file) containing the functions and code to perform the above tasks.
2. A report (.pdf or .docx file) explaining your code and any challenges you encountered, including how you solved them.
3. **Bonus:** Write a brief reflection on how these preprocessing steps might affect the performance of a simple machine learning model on text data.