

```
import spacy
```

```
# Load the English language model for spaCy
```

```
nlp = spacy.load("en_core_web_sm")
```

```
# Define a function to preprocess text
```

```
def preprocess_text(text):
```

```
    # Process the text using the spaCy model
```

```
    doc = nlp(text)
```

```
    # Lemmatize the tokens, remove stop words, and filter out non-alphabetic tokens
```

```
    lemmatized_tokens = [token.lemma_.lower() for token in doc if not token.is_stop and token.is_alpha]
```

```
    # Return the list of lemmatized tokens
```

```
    return lemmatized_tokens
```

```
# Define a function to generate a shorter prompt
```

```
def generate_shorter_prompt(prompt):
```

```
    # Create a set to store important phrases
```

```
    important_phrases = set()
```

```
    # Process the input prompt using the spaCy model
```

```
    doc = nlp(prompt)
```

```
    # Extract important phrases using noun chunking and named entity recognition
```

```
    for chunk in doc.noun_chunks:
```

```
        important_phrases.add(chunk.text)
```

```
    for ent in doc.ents:
```

```
        important_phrases.add(ent.text)
```

Preprocess the important phrases using the preprocess_text function

```
preprocessed_phrases = [' '.join(preprocess_text(phrase)) for phrase in  
important_phrases]
```

Remove duplicate phrases and combine the remaining phrases into a shorter prompt

```
shorter_prompt = ' '.join(set(preprocessed_phrases))
```

Return the shorter prompt as a string

```
return shorter_prompt
```

Main function to test the generate_shorter_prompt function

```
if __name__ == "__main__":
```

Define an input prompt

```
input_prompt = input("enter the prompt:")
```

Generate a shorter prompt using the generate_shorter_prompt function

```
shorter_prompt = generate_shorter_prompt(input_prompt)
```

Print the original prompt and the shorter prompt

```
print("Original prompt:")
```

```
print(input_prompt)
```

```
print("\nShorter prompt:")
```

```
print(shorter_prompt)
```