

```
!pip install nltk spacy
import nltk
nltk.download('punkt')
nltk.download('stopwords')
!python -m spacy download en_core_web_sm
```

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[nltk_data] Downloading package punkt to /root/nltk_data...
[nltk_data]   Unzipping tokenizers/punkt.zip.
[nltk_data] Downloading package stopwords to /root/nltk_data...
[nltk_data]   Unzipping corpora/stopwords.zip.
Collecting en-core-web-sm==3.8.0
  Downloading https://github.com/explosion/spacy-models/releases/download/en_core_web_sm-3.8.0/en_core_w
  12.8/12.8 MB 102.7 MB/s eta 0:00:00
✓ Download and installation successful
You can now load the package via spacy.load('en_core_web_sm')
⚠ Restart to reload dependencies
If you are in a Jupyter or Colab notebook, you may need to restart Python in
order to load all the package's dependencies. You can do this by selecting the
'Restart kernel' or 'Restart runtime' option.
```

```
paragraph = """The quick brown fox jumps over the lazy dog. This is an example paragraph that you can replace with ...
# Alternatively, to load from a file:
# from google.colab import files
# uploaded = files.upload()
#
# for filename in uploaded.keys():
#   with open(filename, 'r') as f:
#     paragraph = f.read()
#   print(f"Loaded '{filename}' with content:\n{paragraph[:200]}...")
# Print first 200 chars

print("Paragraph loaded successfully (first 100 characters):\n" + paragraph[:100] + "...")

Paragraph loaded successfully (first 100 characters):
The quick brown fox jumps over the lazy dog. This is an example paragraph that you can replace with ...
```

```
import re

# Convert to lowercase
lowercase_paragraph = paragraph.lower()
print(f"\nParagraph in lowercase:\n{lowercase_paragraph[:200]}...")
```

```
# Count the number of words
# Using a regex to split by whitespace to handle multiple spaces, newlines etc. effectively
words = re.findall(r'\b\w+\b', paragraph)
word_count = len(words)
print(f"\nNumber of words in the paragraph: {word_count}")
```

Paragraph in lowercase:

the quick brown fox jumps over the lazy dog. this is an example paragraph that you can replace with your

Number of words in the paragraph: 42