

```
!pip install nltk spacy  
!python -m spacy download en_core_web_sm
```

```
Requirement already satisfied: nltk in /usr/local/lib/python3.12/dist-packages (3.9.1)  
Requirement already satisfied: spacy in /usr/local/lib/python3.12/dist-packages (3.8.1)  
Requirement already satisfied: click in /usr/local/lib/python3.12/dist-packages (from spacy)  
Requirement already satisfied: joblib in /usr/local/lib/python3.12/dist-packages (from spacy)  
Requirement already satisfied: regex>=2021.8.3 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: tqdm in /usr/local/lib/python3.12/dist-packages (from spacy)  
Requirement already satisfied: spacy-legacy<3.1.0,>=3.0.11 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: spacy-loggers<2.0.0,>=1.0.0 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: murmurhash<1.1.0,>=0.28.0 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: cymem<2.1.0,>=2.0.2 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: preshed<3.1.0,>=3.0.2 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: thinc<8.4.0,>=8.3.4 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: wasabi<1.2.0,>=0.9.1 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: srslly<3.0.0,>=2.4.3 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: catalogue<2.1.0,>=2.0.6 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: weasel<0.5.0,>=0.4.2 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: typer-slim<1.0.0,>=0.3.0 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: numpy>=1.19.0 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: requests<3.0.0,>=2.13.0 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: pydantic!=1.8,!<1.8.1,<3.0.0,>=1.7.4 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: jinja2 in /usr/local/lib/python3.12/dist-packages (from spacy)  
Requirement already satisfied: setuptools in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: annotated-types>=0.6.0 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: pydantic-core==2.41.4 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: typing-extensions>=4.14.1 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: typing-inspection>=0.4.2 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: charset_normalizer<4,>=2 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: blis<1.4.0,>=1.3.0 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: confection<1.0.0,>=0.0.1 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: cloudpathlib<1.0.0,>=0.7.0 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: smart-open<8.0.0,>=5.2.1 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.12/dist-packages  
Requirement already satisfied: wrapt in /usr/local/lib/python3.12/dist-packages (from spacy)  
Collecting en-core-web-sm==3.8.0  
  Downloading https://github.com/explosion/spacy-models/releases/download/en_core_web_sm/en_core_web_sm-3.8.0.tar.gz (12.8/12.8 MB 74.4 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.

```
text = """
```

Artificial Intelligence is transforming industries across the world.

Machine learning and natural language processing are widely used today.

```
"""
# STEP 4: Count the number of words in the text (Correct & Simple)

text = """
Artificial Intelligence is transforming industries across the world.
Machine learning and natural language processing are widely used today.
"""

# Convert text into words using split()
words = text.split()

# Count words
word_count = len(words)

print("Number of words:", word_count)
```

Number of words: 18

```
# Convert text to lowercase
lowercase_text = text.lower()

print("Lowercase Text:")
print(lowercase_text)
```

Lowercase Text:

artificial intelligence is transforming industries across the world.  
machine learning and natural language processing are widely used today.

