

Write a Python program to using NLTK and Spacy  
i) Convert text to lowercase.  
ii) Remove stopwords using NLTK

In [8]: ▶

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

Requirement already satisfied: nltk in c:\users\hp\anaconda3\lib\site-packages (3.7)

Requirement already satisfied: spacy in c:\users\hp\anaconda3\lib\site-packages (3.8.3)

Requirement already satisfied: joblib in c:\users\hp\anaconda3\lib\site-packages (from nltk) (1.1.0)

Requirement already satisfied: tqdm in c:\users\hp\anaconda3\lib\site-packages (from nltk) (4.64.1)

Requirement already satisfied: click in c:\users\hp\anaconda3\lib\site-packages (from nltk) (8.0.4)

Requirement already satisfied: regex<=2021.8.3 in c:\users\hp\anaconda3\lib\site-packages (from nltk) (2022.7.9)

Requirement already satisfied: setuptools in c:\users\hp\anaconda3\lib\site-packages (from spacy) (63.4.1)

Requirement already satisfied: requests<3.0.0,>=2.13.0 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (2.28.1)

Requirement already satisfied: preshed<3.1.0,>=3.0.2 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (3.0.9)

Requirement already satisfied: numpy>=1.19.0 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (1.21.5)

Requirement already satisfied: wasabi<1.2.0,>=0.9.1 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (1.1.3)

Requirement already satisfied: spacy-loggers<2.0.0,>=1.0.0 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (1.0.5)

Requirement already satisfied: srsly<3.0.0,>=2.4.3 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (2.5.1)

Requirement already satisfied: Jinja2 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (2.11.3)

Requirement already satisfied: weasel<0.5.0,>=0.1.0 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (0.4.1)

Requirement already satisfied: thinc<8.4.0,>=8.3.0 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (8.3.4)

Requirement already satisfied: catalogue<2.1.0,>=2.0.6 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (2.0.10)

Requirement already satisfied: packaging>=20.0 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (21.3)

Requirement already satisfied: typer<1.0.0,>=0.3.0 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (0.15.1)

Requirement already satisfied: langcodes<4.0.0,>=3.2.0 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (3.5.0)

Requirement already satisfied: murmurhash<1.1.0,>=0.28.0 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (1.0.12)

Requirement already satisfied: pydantic!=1.8,!1.8.1,<3.0.0,>=1.7.4 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (2.10.6)

Requirement already satisfied: spacy-legacy<3.1.0,>=3.0.11 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (3.0.12)

Requirement already satisfied: cymem<2.1.0,>=2.0.2 in c:\users\hp\anaconda3\lib\site-packages (from spacy) (2.0.11)

Requirement already satisfied: language-data>=1.2 in c:\users\hp\anaconda3\lib\site-packages (from langcodes<4.0.0,>=3.2.0->spacy) (1.3.0)

Requirement already satisfied: pyparsing!=3.0.5,>=2.0.2 in c:\users\hp\anaconda3\lib\site-packages (from packaging>=20.0->spacy) (3.0.9)

Requirement already satisfied: typing-extensions>=4.12.2 in c:\users\hp\anaconda3\lib\site-packages (from pydantic!=1.8,!1.8.1,<3.0.0,>=1.7.4->spacy) (4.12.2)

Requirement already satisfied: annotated-types>=0.6.0 in c:\users\hp\anaconda3\lib\site-packages (from pydantic!=1.8,!1.8.1,<3.0.0,>=1.7.4->spacy) (0.6.0)

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onda3\lib\site-packages (from pydantic!=1.8,!1.8.1,<3.0.0,>=1.7.4->spacy) (0.7.0)
Requirement already satisfied: pydantic-core==2.27.2 in c:\users\hp\anaconda3\lib\site-packages (from pydantic!=1.8,!1.8.1,<3.0.0,>=1.7.4->spacy) (2.27.2)
Requirement already satisfied: charset-normalizer<3,>=2 in c:\users\hp\anaconda3\lib\site-packages (from requests<3.0.0,>=2.13.0->spacy) (2.0.4)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in c:\users\hp\anaconda3\lib\site-packages (from requests<3.0.0,>=2.13.0->spacy) (1.26.11)
Requirement already satisfied: idna<4,>=2.5 in c:\users\hp\anaconda3\lib\site-packages (from requests<3.0.0,>=2.13.0->spacy) (3.3)
Requirement already satisfied: certifi>=2017.4.17 in c:\users\hp\anaconda3\lib\site-packages (from requests<3.0.0,>=2.13.0->spacy) (2022.9.14)
Requirement already satisfied: blis<1.3.0,>=1.2.0 in c:\users\hp\anaconda3\lib\site-packages (from thinc<8.4.0,>=8.3.0->spacy) (1.2.0)
Requirement already satisfied: confection<1.0.0,>=0.0.1 in c:\users\hp\anaconda3\lib\site-packages (from thinc<8.4.0,>=8.3.0->spacy) (0.1.5)
Requirement already satisfied: colorama in c:\users\hp\anaconda3\lib\site-packages (from tqdm->nlTK) (0.4.6)
Requirement already satisfied: rich>=10.11.0 in c:\users\hp\anaconda3\lib\site-packages (from typer<1.0.0,>=0.3.0->spacy) (13.9.4)
Requirement already satisfied: shellingham>=1.3.0 in c:\users\hp\anaconda3\lib\site-packages (from typer<1.0.0,>=0.3.0->spacy) (1.5.4)
Requirement already satisfied: smart-open<8.0.0,>=5.2.1 in c:\users\hp\anaconda3\lib\site-packages (from weasel<0.5.0,>=0.1.0->spacy) (5.2.1)
Requirement already satisfied: cloudpathlib<1.0.0,>=0.7.0 in c:\users\hp\anaconda3\lib\site-packages (from weasel<0.5.0,>=0.1.0->spacy) (0.20.0)
Requirement already satisfied: MarkupSafe>=0.23 in c:\users\hp\anaconda3\lib\site-packages (from jinja2->spacy) (2.0.1)
Requirement already satisfied: marisa-trie>=1.1.0 in c:\users\hp\anaconda3\lib\site-packages (from language-data>=1.2->langcodes<4.0.0,>=3.2.0->spacy) (1.2.1)
Requirement already satisfied: markdown-it-py>=2.2.0 in c:\users\hp\anaconda3\lib\site-packages (from rich>=10.11.0->typer<1.0.0,>=0.3.0->spacy) (3.0.0)
Requirement already satisfied: pygments<3.0.0,>=2.13.0 in c:\users\hp\anaconda3\lib\site-packages (from rich>=10.11.0->typer<1.0.0,>=0.3.0->spacy) (2.19.1)
Requirement already satisfied: mdurl~=0.1 in c:\users\hp\anaconda3\lib\site-packages (from markdown-it-py>=2.2.0->rich>=10.11.0->typer<1.0.0,>=0.3.0->spacy) (0.1.2)
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_web_sm-3.8.0-py3-none-any.whl (https://github.com/explosion/spacy-models/releases/download/en_core_web_sm-3.8.0/en_core_web_sm-3.8.0-py3-none-any.whl) (12.8 MB)
----- 12.8/12.8 MB 7.0 MB/s eta
0:00:00
[+] Download and installation successful
You can now load the package via spacy.load('en_core_web_sm')

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```
In [7]: ► import nltk
from nltk.corpus import stopwords
import spacy
nltk.download('stopwords')
stop_words = set(stopwords.words('english'))
nlp = spacy.load("en_core_web_sm")
text = input("Enter the text: ")
doc = nlp(text.lower())
filtered_words = [token.text for token in doc if token.text not in stop_words]
print("Filtered text (without stopwords):")
print(" ".join(filtered_words))
```

```
[nltk_data] Downloading package stopwords to
[nltk_data] C:\Users\hp\AppData\Roaming\nltk_data...
[nltk_data] Package stopwords is already up-to-date!
```

Enter the text: "Hello, World!" is a classic example of text in Python, often used as a first program to print a simple message on the screen; you can write this in Python as: print("Hello, World!").

Filtered text (without stopwords):

" hello , world ! " classic example text python , often used first program print simple message screen ; write python : print("hello , world ! " )  
.