PROBLEM 2

In the second block you will be going to work on the inaugural corpus from the 45 U.S.Pres. Set will be moving to the following parts-of-the-Presidents-of-the-United-States-of-America

- Frequency of Nouns and Verbs
- Frequency of Adjectives and Adverbs
- Frequency of Pronouns
- Frequency of Prepositions

Find the number of frequency, stems and lemmatize for the mentioned keywords. - 2 Marks

- Remove all the stopwords from all the three parts-of-the-speech. - 2 Marks
- Which word occurs the most number of times in the inaugural speeches for each president? Remove the top three words. (after removing the stopwords) - 2 Marks
- Find the word count over time for each word in the corpus. (after removing the stopwords) - 2 Marks

Download and Import necessary packages and load the dataset

```
!pip install spacy
!pip install -U spacy-lookups-data
!python -m spacy download en_core_web_sm
!pip install -U spacy[transformers,lookups,gpu,cuda100,cuda101,cuda102,cuda103,cuda104,cuda105,cuda106,cuda107,cuda108,cuda110,cuda111,cuda112,apple,ray,hf,spacy-ray,nvidia,pipeline]
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Requirement already satisfied: spacy in /usr/local/lib/python3.7/dist-packages (3.2.4)
Requirement already satisfied: spacy-legacy>=3.0.8 in /usr/local/lib/python3.7/dist-packages (3.0.8)
Requirement already satisfied: spacy-loggers>=1.0.0 in /usr/local/lib/python3.7/dist-packages (1.0.2)
Requirement already satisfied: murmurhash>=0.28.0,<1.0.2 in /usr/local/lib/python3.7/dist-packages (1.0.2)
Requirement already satisfied: cymem>=2.0.2,<2.0.6 in /usr/local/lib/python3.7/dist-packages (2.0.5)
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Requirement already satisfied: thinc>=8.0.12,<8.0.17 in /usr/local/lib/python3.7/dist-packages (8.0.16)
Requirement already satisfied: blis>=0.4.1,<0.7.9 in /usr/local/lib/python3.7/dist-packages (0.7.8)
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Requirement already satisfied: srsly>=2.4.3,<2.5.0 in /usr/local/lib/python3.7/dist-packages (2.4.3)
Requirement already satisfied: catalogue>=2.0.6,<2.0.8 in /usr/local/lib/python3.7/dist-packages (2.0.7)
Requirement already satisfied: typer>=0.3.0,<0.4.0 in /usr/local/lib/python3.7/dist-packages (0.3.2)
Requirement already satisfied: pathy>=0.3.5 in /usr/local/lib/python3.7/dist-packages (0.6.1)
Requirement already satisfied: pydantic!=1.8,!=1.8.1,<1.9.0,>=1.7.4 in /usr/local/lib/python3.7/dist-packages (1.8.2)
Requirement already satisfied: numpy>=1.15.0 in /usr/local/lib/python3.7/dist-packages (1.21.6)
Requirement already satisfied: jinja2 in /usr/local/lib/python3.7/dist-packages (2.11.3)
Requirement already satisfied: setuptools in /usr/local/lib/python3.7/dist-packages (57.4.0)
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.7/dist-packages (21.3)
Requirement already satisfied: langcodes<3.0.0,>=3.1.0 in /usr/local/lib/python3.7/dist-packages (3.2.1)
Requirement already satisfied: spacy-lookups-data in /usr/local/lib/python3.7/dist-packages (1.0.3)
Requirement already satisfied: tqdm<4.65.0,>=4.38.0 in /usr/local/lib/python3.7/dist-packages (4.64.1)
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Requirement already satisfied: MarkupSafe>=0.23 in /usr/local/lib/python3.7/dist-packages (2.0.1)
Requirement already satisfied: click<7.1.2,>=7.1.1 in /usr/local/lib/python3.7/dist-packages (7.1.2)
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Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.7/dist-packages (2022.9.24)
Requirement already satisfied: charset-normalizer<2.1,>=2 in /usr/local/lib/python3.7/dist-packages (2.0.12)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.7/dist-packages (3.4)
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Collecting en_core_web_sm==3.2.0
  Download en_core_web_sm-3.2.0.tar.gz (13.9 MB)
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  Requirement already satisfied: wheel>=0.37.0 in /usr/local/lib/python3.7/dist-packages (0.38.4)
  Requirement already satisfied: pip-system-certs>=3.0; os_name != "nt" in /usr/local/lib/python3.7/dist-packages (3.0)
  Requirement already satisfied: wrapt>=1.10.0,<1.11.0; platform_python_implementation != "PyPy" in /usr/local/lib/python3.7/dist-packages (1.10.11)
  Requirement already satisfied: pefile>=2022.5.30; platform_system == "Windows" in /usr/local/lib/python3.7/dist-packages (2022.5.30)
  Requirement already satisfied: pywin32-ctypes>=0.2.0; platform_system == "Windows" in /usr/local/lib/python3.7/dist-packages (0.2.0)
  Requirement already satisfied: spacy-transformers[apple,cuda-autogen,cuda100,cuda101,cuda102,cuda103,cuda104,cuda105,cuda106,cuda107,cuda108,cuda110,cuda111,cuda112,cuda113,cuda114,cuda115,cuda116,cuda117,cuda118,ray,spacy-ray] in /usr/local/lib/python3.7/dist-packages (1.1.8)
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