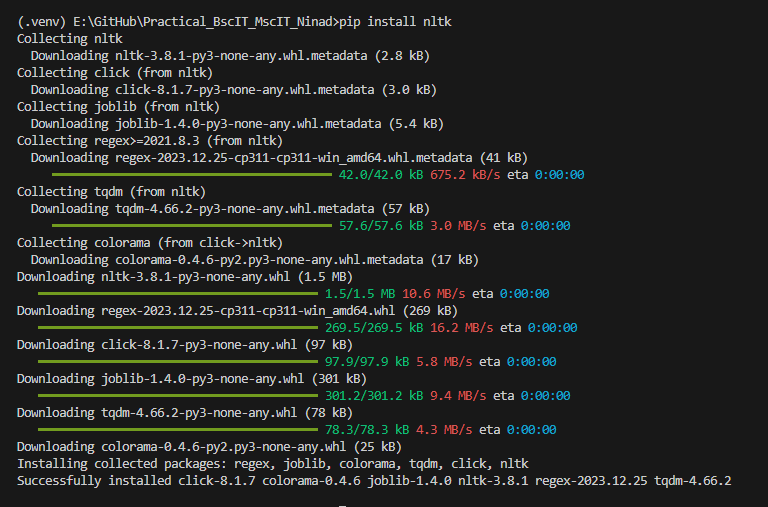
**Practical No: 1**

**AIM a): Study different libraries used for NLP in python.**

**AIM b): Install NLTK Package.**



**AIM c): Convert the given text into speech.**

**Description:**

**Code:**

# Import the required module for text to speech conversion

#!pip install gtts

from gtts import gTTS

# This module is imported so that we can play the converted audio

import os

# The text that you want to convert to audio

mytext = "Hello Everyone!My name is Ninad"

# Language in which you want to convert

language = "en"

# Passing the text and language to the engine, here we have marked slow=False. Which tells the module that the converted audio should have a high speed

myobj = gTTS(text=mytext, lang=language, slow=False)

# Saving the converted audio in a mp3 file named welcome

myobj.save("welcomeNK.mp3")

# Playing the converted file

os.system("mpg321 welcomeNK.mp3")

**Output:**

A screen shot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

**AIM d): Convert the speech to text**

**Description:**

**Code:**

#Aim: Convert audio file Speech to Text.

#Note: required to store the input file "NLP\_test.wav" in the current folder before running the program.

!pip install SpeechRecognition pydub

import speech\_recognition as sr

filename = "/content/NLP\_test.wav"

# initialize the recognizer

r = sr.Recognizer()

# open the file

with sr.AudioFile(filename) as source:

# listen for the data (load audio to memory)

audio\_data = r.record(source)

# recognize (convert from speech to text)

text = r.recognize\_google(audio\_data)

print(text)

A screenshot of a computer

Description automatically generated

**Practical No: 2**

a.

**Practical No: 3**

1. Study of Wordnet Dictionary with methods as synsets, definitions,

# NLP 3A. Study of Wordnet Dictionary with methods as synsets, definitions, examples, antonyms

# Import necessary libraries

import nltk

from nltk.corpus import wordnet

# Download WordNet (if not already downloaded)

nltk.download('wordnet')

# Get synsets (collection of synonyms) for "phone"

synsets = wordnet.synsets("phone")

# Print information about "phone"

print("\*\*Word:\*\* phone")

print("  \* Synsets:")

# Loop through each synset and print its definition and examples

for synset in synsets:

    # Get the first word from the synset (considered the most representative)

    word = synset.lemmas()[0].name()

    print(f"      - Word: {word}")

    print(f"        - Definition: {synset.definition()}")

    print(f"          - Examples: {synset.examples()}")

print("-"\*40)

# Get antonyms for "buy" (verb)

antonyms = wordnet.lemma('buy.v.01.buy').antonyms()

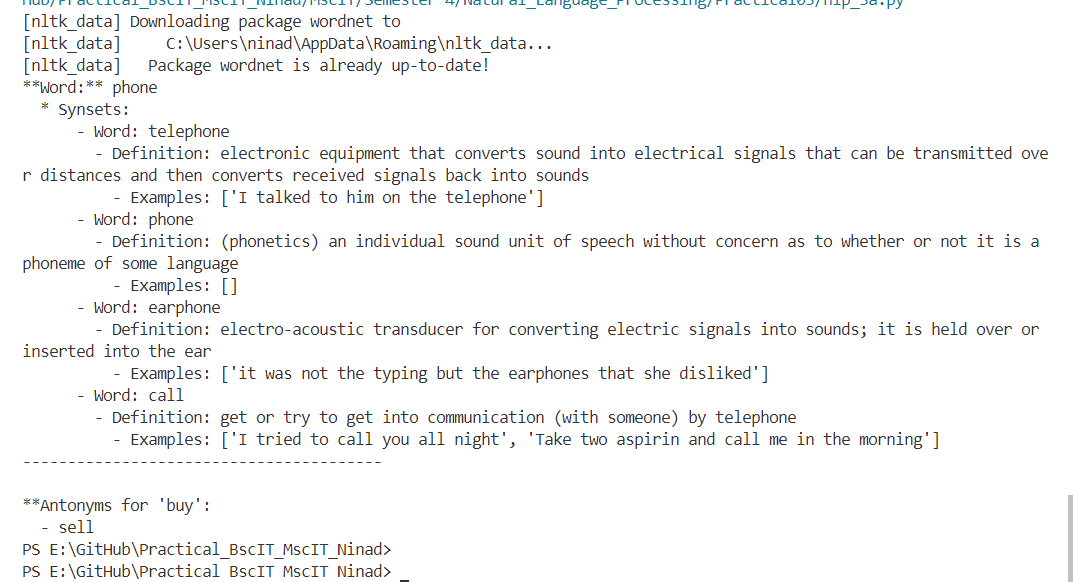
# Print antonyms for "buy"

print("\n\*\*Antonyms for 'buy':")

for antonym in antonyms:

    print(f"  - {antonym.name()}")

OUTPUT:



**Practical No: 4**

a.