```
!pip install sounddevice numpy playsound
```

```
Requirement already satisfied: sounddevice in c:\users\admin\
anaconda3\lib\site-packages (0.5.1)
Requirement already satisfied: numpy in c:\users\admin\anaconda3\lib\
site-packages (1.21.5)
Requirement already satisfied: playsound in c:\users\admin\anaconda3\
lib\site-packages (1.3.0)
Requirement already satisfied: CFFI>=1.0 in c:\users\admin\anaconda3\
lib\site-packages (from sounddevice) (1.15.0)
Requirement already satisfied: pycparser in c:\users\admin\anaconda3\
lib\site-packages (from CFFI>=1.0->sounddevice) (2.21)
```

```
import sounddevice as sd
import numpy as np
import wave
import os
from playsound import playsound

class VoiceNotesMemoSystem:
    def __init__(self):
        self.notes = {}  # Dictionary to store notes: {id:
(audio_file, memo)}
        self.current_id = 0
        self.last_audio_file = None

    def record_audio(self, duration=5, filename='note.wav'):
        print("Recording...")
        fs = 44100  # Sample rate
        myrecording = sd.rec(int(duration * fs), samplerate=fs,
channels=2, dtype='int16')
        sd.wait()  # Wait until recording is finished
        print("Recording finished.")

        # Save the recording as a WAV file
        with wave.open(filename, 'wb') as wf:
            wf.setnchannels(2)
            wf.setsampwidth(2)  # 2 bytes for 'int16'
            wf.setframerate(fs)
            wf.writeframes(myrecording.tobytes())

        self.last_audio_file = filename
        return filename

    def save_note(self, memo):
        if not self.last_audio_file:
            print("No audio recorded yet.")
            return
        self.notes[self.current_id] = (self.last_audio_file, memo)
        print(f"Note saved with ID: {self.current_id}")
```

```
        self.current_id += 1
        self.last_audio_file = None  # Reset after saving

    def play_audio(self, note_id):
        if note_id in self.notes:
            audio_file = self.notes[note_id][0]
            print(f"Playing {audio_file}...")
            playsound(audio_file)
        else:
            print(f"No note found with ID: {note_id}")

    def list_notes(self):
        if not self.notes:
            print("No notes saved.")
            return
        for note_id, (audio_file, memo) in self.notes.items():
            print(f"ID: {note_id}, Audio File: {audio_file}, Memo:
{memo}")

    def delete_note(self, note_id):
        if note_id in self.notes:
            del self.notes[note_id]
            print(f"Note with ID {note_id} deleted.")
        else:
            print(f"No note found with ID: {note_id}")

system = VoiceNotesMemoSystem()

duration = int(input("Enter duration in seconds: "))
audio_file = system.record_audio(duration)
print(f"Audio recorded and saved as {audio_file}")

Enter duration in seconds: 2
Recording...
Recording finished.
Audio recorded and saved as note.wav

memo = input("Enter memo for the note: ")
system.save_note(memo)

Enter memo for the note: hello2
Note saved with ID: 1

system.list_notes()

ID: 0, Audio File: note.wav, Memo: hello
ID: 1, Audio File: note.wav, Memo: hello2

note_id = int(input("Enter note ID to play: "))
system.play_audio(note_id)

Enter note ID to play: 1
```

```
    Error 263 for command:
        open note.wav
    The specified device is not open or is not recognized by MCI.

    Error 263 for command:
        close note.wav
    The specified device is not open or is not recognized by MCI.
Failed to close the file: note.wav

Playing note.wav...

---------------------------------------------------------------------
-----
PlaysoundException                        Traceback (most recent call
last)
Input In [12], in <cell line: 2>()
      1 note_id = int(input("Enter note ID to play: "))
----> 2 system.play_audio(note_id)

Input In [3], in VoiceNotesMemoSystem.play_audio(self, note_id)
     35     audio_file = self.notes[note_id][0]
     36     print(f"Playing {audio_file}...")
---> 37     playsound(audio_file)
     38 else:
     39     print(f"No note found with ID: {note_id}")

File ~\Anaconda3\lib\site-packages\playsound.py:72, in
_playsoundWin(sound, block)
     70 try:
     71     logger.debug('Starting')
---> 72     winCommand(u'open {}'.format(sound))
     73     winCommand(u'play {}{}'.format(sound, ' wait' if block
else ''))
     74     logger.debug('Returning')

File ~\Anaconda3\lib\site-packages\playsound.py:64, in
_playsoundWin.<locals>.winCommand(*command)
     60     exceptionMessage = ('\n    Error ' + str(errorCode) + '
for command:'
     61                         '\n        ' + command.decode('utf-
16') +
     62                         '\n    ' +
errorBuffer.raw.decode('utf-16').rstrip('\0'))
     63     logger.error(exceptionMessage)
---> 64     raise PlaysoundException(exceptionMessage)
     65 return buf.value

PlaysoundException:
    Error 263 for command:
```

```
        open note.wav
    The specified device is not open or is not recognized by MCI.

!pip install simpleaudio

Collecting simpleaudio
  Downloading simpleaudio-1.0.4.tar.gz (2.0 MB)
Building wheels for collected packages: simpleaudio
  Building wheel for simpleaudio (setup.py): started
  Building wheel for simpleaudio (setup.py): finished with status
'error'
  Running setup.py clean for simpleaudio
Failed to build simpleaudio
Installing collected packages: simpleaudio
    Running setup.py install for simpleaudio: started
    Running setup.py install for simpleaudio: finished with status
'error'

  ERROR: Command errored out with exit status 1:
   command: 'C:\Users\Admin\Anaconda3\python.exe' -u -c 'import io,
os, sys, setuptools, tokenize; sys.argv[0] = '"'"'C:\\Users\\Admin\\
AppData\\Local\\Temp\\pip-install-4jrlotpv\\
simpleaudio_8273a0845a544a6fbf533f13a24c3dc0\\setup.py'"'"';
__file__='"'"'C:\\Users\\Admin\\AppData\\Local\\Temp\\pip-install-
4jrlotpv\\simpleaudio_8273a0845a544a6fbf533f13a24c3dc0\\
setup.py'"'"';f = getattr(tokenize, '"'"'open'"'"', open)(__file__) if
os.path.exists(__file__) else io.StringIO('"'"'from setuptools import
setup; setup()'"'"');code = f.read().replace('"'"'\r\n'"'"', '"'"'\
n'"'"');f.close();exec(compile(code, __file__, '"'"'exec'"'"'))'
bdist_wheel -d 'C:\Users\Admin\AppData\Local\Temp\pip-wheel-3ol9m5ik'
       cwd: C:\Users\Admin\AppData\Local\Temp\pip-install-4jrlotpv\
simpleaudio_8273a0845a544a6fbf533f13a24c3dc0\
  Complete output (18 lines):
  running bdist_wheel
  running build
  running build_py
  creating build
  creating build\lib.win-amd64-3.9
  creating build\lib.win-amd64-3.9\simpleaudio
  copying simpleaudio\__init__.py -> build\lib.win-amd64-3.9\
simpleaudio
  copying simpleaudio\shiny.py -> build\lib.win-amd64-3.9\simpleaudio
  copying simpleaudio\functionchecks.py -> build\lib.win-amd64-3.9\
simpleaudio
  creating build\lib.win-amd64-3.9\simpleaudio\test_audio
  copying simpleaudio\test_audio\c.wav -> build\lib.win-amd64-3.9\
simpleaudio\test_audio
  copying simpleaudio\test_audio\e.wav -> build\lib.win-amd64-3.9\
simpleaudio\test_audio
  copying simpleaudio\test_audio\g.wav -> build\lib.win-amd64-3.9\
```

```
simpleaudio\test_audio
  copying simpleaudio\test_audio\left_right.wav -> build\lib.win-
amd64-3.9\simpleaudio\test_audio
  copying simpleaudio\test_audio\notes_2_16_44.wav -> build\lib.win-
amd64-3.9\simpleaudio\test_audio
  running build_ext
  building 'simpleaudio._simpleaudio' extension
  error: Microsoft Visual C++ 14.0 or greater is required. Get it with
"Microsoft C++ Build Tools":
https://visualstudio.microsoft.com/visual-cpp-build-tools/
  ----------------------------------------
  ERROR: Failed building wheel for simpleaudio
    ERROR: Command errored out with exit status 1:
     command: 'C:\Users\Admin\Anaconda3\python.exe' -u -c 'import io,
os, sys, setuptools, tokenize; sys.argv[0] = '"'"'C:\\Users\\Admin\\
AppData\\Local\\Temp\\pip-install-4jrlotpv\\
simpleaudio_8273a0845a544a6fbf533f13a24c3dc0\\setup.py'"'"';
__file__='"'"'C:\\Users\\Admin\\AppData\\Local\\Temp\\pip-install-
4jrlotpv\\simpleaudio_8273a0845a544a6fbf533f13a24c3dc0\\
setup.py'"'"';f = getattr(tokenize, '"'"'open'"'"', open)(__file__) if
os.path.exists(__file__) else io.StringIO('"'"'from setuptools import
setup; setup()'"'"');code = f.read().replace('"'"'\r\n'"'"', '"'"'\
n'"'"');f.close();exec(compile(code, __file__, '"'"'exec'"'"'))'
install --record 'C:\Users\Admin\AppData\Local\Temp\pip-record-
gq5vc7l2\install-record.txt' --single-version-externally-managed --
compile --install-headers 'C:\Users\Admin\Anaconda3\Include\
simpleaudio'
         cwd: C:\Users\Admin\AppData\Local\Temp\pip-install-4jrlotpv\
simpleaudio_8273a0845a544a6fbf533f13a24c3dc0\
    Complete output (20 lines):
    running install
    C:\Users\Admin\Anaconda3\lib\site-packages\setuptools\command\
install.py:34: SetuptoolsDeprecationWarning: setup.py install is
deprecated. Use build and pip and other standards-based tools.
      warnings.warn(
    running build
    running build_py
    creating build
    creating build\lib.win-amd64-3.9
    creating build\lib.win-amd64-3.9\simpleaudio
    copying simpleaudio\__init__.py -> build\lib.win-amd64-3.9\
simpleaudio
    copying simpleaudio\shiny.py -> build\lib.win-amd64-3.9\
simpleaudio
    copying simpleaudio\functionchecks.py -> build\lib.win-amd64-3.9\
simpleaudio
    creating build\lib.win-amd64-3.9\simpleaudio\test_audio
    copying simpleaudio\test_audio\c.wav -> build\lib.win-amd64-3.9\
simpleaudio\test_audio
```

```
    copying simpleaudio\test_audio\e.wav -> build\lib.win-amd64-3.9\
simpleaudio\test_audio
    copying simpleaudio\test_audio\g.wav -> build\lib.win-amd64-3.9\
simpleaudio\test_audio
    copying simpleaudio\test_audio\left_right.wav -> build\lib.win-
amd64-3.9\simpleaudio\test_audio
    copying simpleaudio\test_audio\notes_2_16_44.wav -> build\lib.win-
amd64-3.9\simpleaudio\test_audio
    running build_ext
    building 'simpleaudio._simpleaudio' extension
    error: Microsoft Visual C++ 14.0 or greater is required. Get it
with "Microsoft C++ Build Tools":
https://visualstudio.microsoft.com/visual-cpp-build-tools/
    ----------------------------------------
ERROR: Command errored out with exit status 1: 'C:\Users\Admin\
Anaconda3\python.exe' -u -c 'import io, os, sys, setuptools, tokenize;
sys.argv[0] = '"'"'C:\\Users\\Admin\\AppData\\Local\\Temp\\pip-
install-4jrlotpv\\simpleaudio_8273a0845a544a6fbf533f13a24c3dc0\\
setup.py'"'"'; __file__='"'"'C:\\Users\\Admin\\AppData\\Local\\Temp\\
pip-install-4jrlotpv\\simpleaudio_8273a0845a544a6fbf533f13a24c3dc0\\
setup.py'"'"';f = getattr(tokenize, '"'"'open'"'"', open)(__file__) if
os.path.exists(__file__) else io.StringIO('"'"'from setuptools import
setup; setup()'"'"');code = f.read().replace('"'"'\r\n'"'"', '"'"'\
n'"'"');f.close();exec(compile(code, __file__, '"'"'exec'"'"'))'
install --record 'C:\Users\Admin\AppData\Local\Temp\pip-record-
gq5vc7l2\install-record.txt' --single-version-externally-managed --
compile --install-headers 'C:\Users\Admin\Anaconda3\Include\
simpleaudio' Check the logs for full command output.
```

```python
import os

def play_audio(self, note_id):
    if note_id in self.notes:
        audio_file = os.path.abspath(self.notes[note_id][0])
        print(f"Playing {audio_file}...")
        playsound(audio_file)
    else:
        print(f"No note found with ID: {note_id}")



note_id = int(input("Enter note ID to play: "))
system.play_audio(note_id)
```

```
Enter note ID to play: 1


    Error 263 for command:
        open note.wav
    The specified device is not open or is not recognized by MCI.
```

```
    Error 263 for command:
        close note.wav
    The specified device is not open or is not recognized by MCI.
Failed to close the file: note.wav

Playing note.wav...

---------------------------------------------------------------------
-----
PlaysoundException                        Traceback (most recent call
last)
Input In [15], in <cell line: 2>()
      1 note_id = int(input("Enter note ID to play: "))
----> 2 system.play_audio(note_id)

Input In [3], in VoiceNotesMemoSystem.play_audio(self, note_id)
     35     audio_file = self.notes[note_id][0]
     36     print(f"Playing {audio_file}...")
---> 37     playsound(audio_file)
     38 else:
     39     print(f"No note found with ID: {note_id}")

File ~\Anaconda3\lib\site-packages\playsound.py:72, in
_playsoundWin(sound, block)
     70 try:
     71     logger.debug('Starting')
---> 72     winCommand(u'open {}'.format(sound))
     73     winCommand(u'play {}{}'.format(sound, ' wait' if block
else ''))
     74     logger.debug('Returning')

File ~\Anaconda3\lib\site-packages\playsound.py:64, in
_playsoundWin.<locals>.winCommand(*command)
     60     exceptionMessage = ('\n    Error ' + str(errorCode) + '
for command:'
     61                         '\n        ' + command.decode('utf-
16') +
     62                         '\n    ' +
errorBuffer.raw.decode('utf-16').rstrip('\0'))
     63     logger.error(exceptionMessage)
---> 64     raise PlaysoundException(exceptionMessage)
     65 return buf.value

PlaysoundException:
    Error 263 for command:
        open note.wav
    The specified device is not open or is not recognized by MCI.

!pip install sounddevice numpy pygame
```

```
Requirement already satisfied: sounddevice in c:\users\admin\
anaconda3\lib\site-packages (0.5.1)
Requirement already satisfied: numpy in c:\users\admin\anaconda3\lib\
site-packages (1.21.5)
Collecting pygame
  Downloading pygame-2.6.1-cp39-cp39-win_amd64.whl (10.6 MB)
Requirement already satisfied: CFFI>=1.0 in c:\users\admin\anaconda3\
lib\site-packages (from sounddevice) (1.15.0)
Requirement already satisfied: pycparser in c:\users\admin\anaconda3\
lib\site-packages (from CFFI>=1.0->sounddevice) (2.21)
Installing collected packages: pygame
Successfully installed pygame-2.6.1
```

```
import sounddevice as sd
import numpy as np
import wave
import os
import pygame
```

```
pygame 2.6.1 (SDL 2.28.4, Python 3.9.12)
Hello from the pygame community.
https://www.pygame.org/contribute.html
```

```
class VoiceNotesMemoSystem:
    def __init__(self):
        self.notes = {}  # Dictionary to store notes: {id:
(audio_file, memo)}
        self.current_id = 0
        self.last_audio_file = None

    def record_audio(self, duration=5, filename='note.wav'):
        print("Recording...")
        fs = 44100  # Sample rate
        myrecording = sd.rec(int(duration * fs), samplerate=fs,
channels=2, dtype='int16')
        sd.wait()  # Wait until recording is finished
        print("Recording finished.")

        # Save the recording as a WAV file
        with wave.open(filename, 'wb') as wf:
            wf.setnchannels(2)
            wf.setsampwidth(2)  # 2 bytes for 'int16'
            wf.setframerate(fs)
            wf.writeframes(myrecording.tobytes())

        self.last_audio_file = filename
        return filename

    def save_note(self, memo):
        if not self.last_audio_file:
```

```
            print("No audio recorded yet.")
            return
        self.notes[self.current_id] = (self.last_audio_file, memo)
        print(f"Note saved with ID: {self.current_id}")
        self.current_id += 1
        self.last_audio_file = None  # Reset after saving

    def play_audio(self, note_id):
        if note_id in self.notes:
            audio_file = os.path.abspath(self.notes[note_id][0])
            print(f"Playing {audio_file}...")
            pygame.mixer.init()
            pygame.mixer.music.load(audio_file)
            pygame.mixer.music.play()

            # Wait for audio to finish
            while pygame.mixer.music.get_busy():
                continue
        else:
            print(f"No note found with ID: {note_id}")

    def list_notes(self):
        if not self.notes:
            print("No notes saved.")
            return
        for note_id, (audio_file, memo) in self.notes.items():
            print(f"ID: {note_id}, Audio File: {audio_file}, Memo:
{memo}")

    def delete_note(self, note_id):
        if note_id in self.notes:
            del self.notes[note_id]
            print(f"Note with ID {note_id} deleted.")
        else:
            print(f"No note found with ID: {note_id}")

system = VoiceNotesMemoSystem()

duration = int(input("Enter duration in seconds: "))
audio_file = system.record_audio(duration)
print(f"Audio recorded and saved as {audio_file}")

Enter duration in seconds: 10
Recording...
Recording finished.
Audio recorded and saved as note.wav

memo = input("Enter memo for the note: ")
system.save_note(memo)
```

```
Enter memo for the note: one
Note saved with ID: 0

system.list_notes()

ID: 0, Audio File: note.wav, Memo: one

note_id = int(input("Enter note ID to play: "))
system.play_audio(note_id)

Enter note ID to play: 0
Playing C:\Users\Admin\note.wav...

note_id = int(input("Enter note ID to delete: "))
system.delete_note(note_id)

Enter note ID to delete: 0
Note with ID 0 deleted.
```