**BULIDING A SPEECH RECOGNIZER**

1. Import the necessary packages

import numpy as np

import matplotlib.pyplot as plt

from scipy.io import wavfile

1. We will read a wav file using wavfile.read() method and it will return frequency sampling and audio signals
2. Now we will display characterstics of that wav file

print('\nSignal shape:', audio\_signal.shape)

print('Signal Datatype:', audio\_signal.dtype)

print('Signal duration:', round(audio\_signal.shape[0] / float(frequency\_sampling), 2), 'seconds')

1. This step involves normalizing the signal as shown below −

audio\_signal = audio\_signal / np.power(2, 15)

1. Now we are trying extract the first 100 values

audio\_signal = audio\_signal [:100]

time\_axis = 1000 \* np.arange(0, len(signal), 1) / float(frequency\_sampling)

1. Now visualize the signal

plt.plot(time\_axis, signal, color='blue')

plt.xlabel('Time (milliseconds)')

plt.ylabel('Amplitude')

plt.title('Input audio signal')

plt.show()