Convert Text to Speech in Python

There are several APIs available to convert text to speech in python. One of such APIs is the Google Text to Speech API commonly known as the gTTS API. gTTS is a very easy to use tool which converts the text entered, into audio which can be saved as an mp3 file.

The gTTS API supports several languages including English, Hindi, Tamil, French, German and many more. The speech can be delivered in any one of the two available audio speeds, fast or slow. However, as of the latest update, it is not possible to change the voice of the generated audio.

4.5.1 Importing the necessary libraries

```
from gtts import gTTS
import os
from IPython.display import Audio
import time
```

4.5.2 Generating the audio file

Now we are all set to write a sample program that converts text to speech and save it as an mp3 file.

```
def play_output_audio(label):

  mytext = 'The wave is predicted as a '+label+' wave.'
  language = 'en'
  myobj = gTTS(text=mytext, lang=language, slow=False)
  myobj.save("signal_label.mp3")
```

4.5.3 Playing the audio file

```
1  from IPython.display import Audio
2  Audio('signal_label.mp3',autoplay=True)
```

CHAPTER 5

OUTPUT SNAPSHOTS

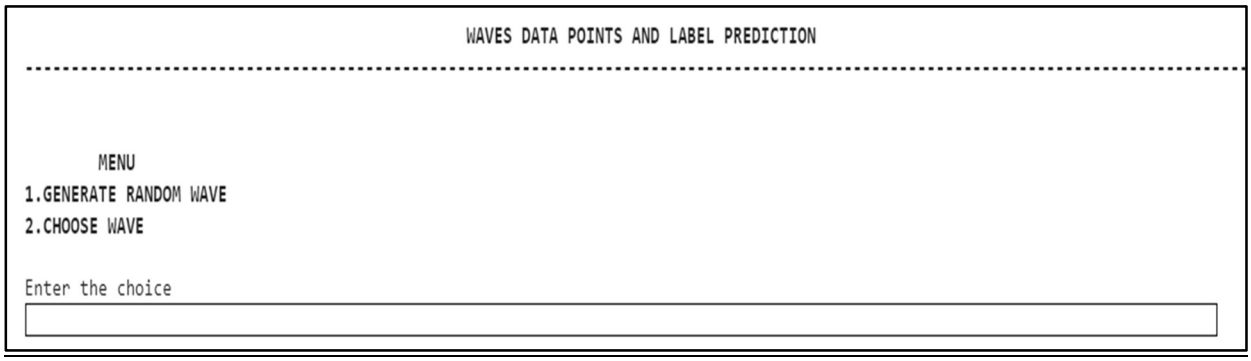

Fig 5.1 Start Menu 1

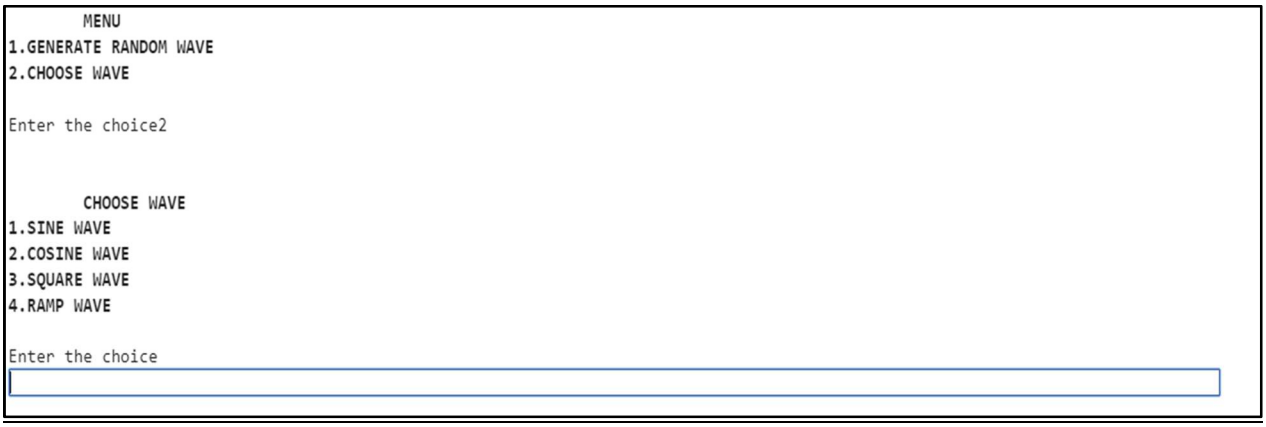

Fig 5.2 Start Menu 2

```
DEFAULT WEIGHTS:
input_1 []
RNN     [array([[-0.47607505]], dtype=float32), array([[1.]], dtype=float32), array([0.], dtype=float32)]
dense   [array([[0.42369163]], dtype=float32), array([0.], dtype=float32)]
Do you want to set the weights????              [y/n]
```

Fig 5.3 Weight Update Menu 1

```
Do you want to set the weights????                [y/n] y
W1:2
W2:3
W3:4
W4:5
W5:6
```

Fig 5.4 Weight Update Menu 2

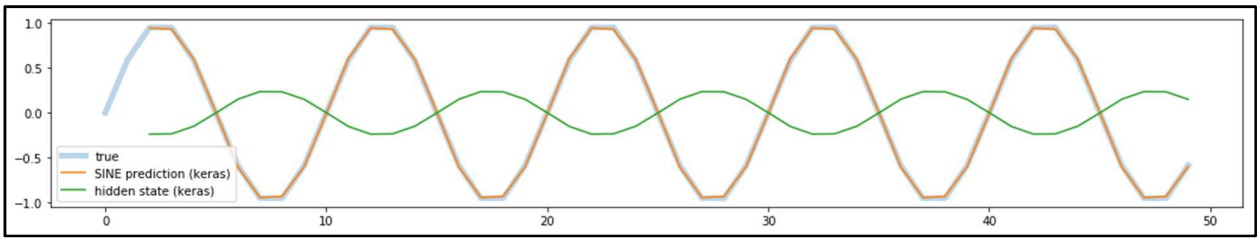

Fig 5.5 If choice is 1, then the signal is predicted as a sine wave.

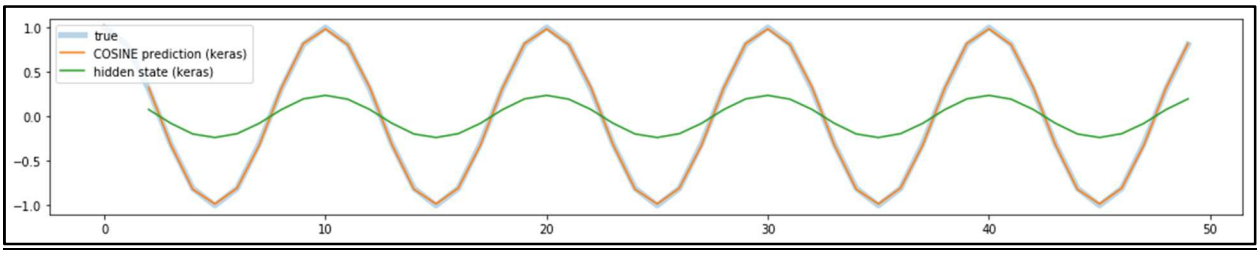

Fig 5.6 If choice is 2, then the signal is predicted as a cosine wave.

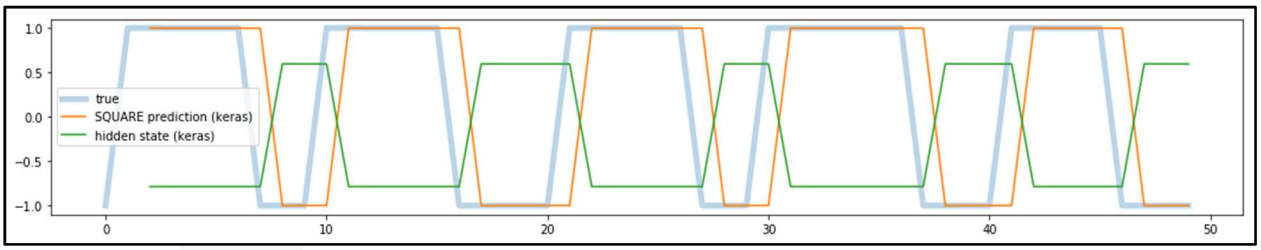

Fig 5.7 If choice is 3, then the signal is predicted as a square wave.

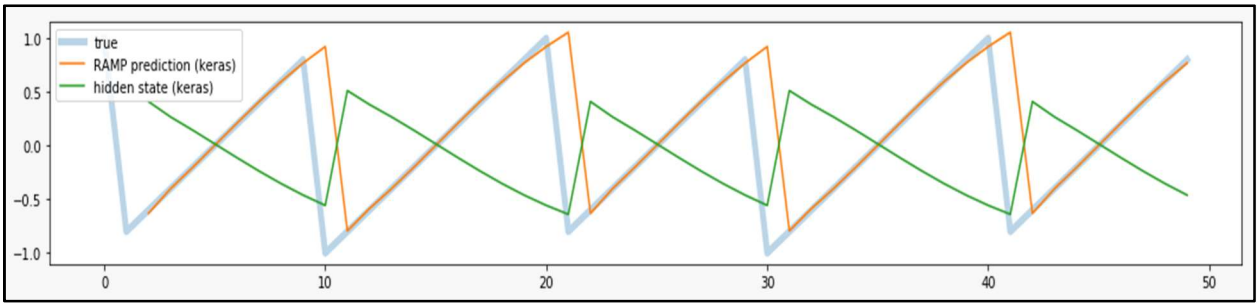

Fig 5.8 If choice is 4, then the signal is predicted as a ramp wave.

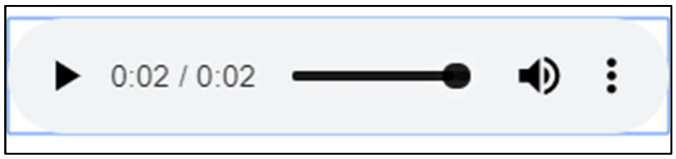

Fig 5.9 Audio file is played automatically after the prediction of the signal.