

## Lab 1: Wave files and the pack function

2. Write a Python script using the `wav` module to read and print basic information about your wav file. See the demo file `read_wavefile_02.py`. Verify that the provided information matches the intended properties of the wave file. For your 16-bit wav file, what is the value of width returned by `getsampwidth()`? Submit your recorded wav file, Python code, and written comments.

**Recorded wav file:** `jjs16.wav` , `jjs8.wav` , `jjs32.wave`

**Python code:** `myvoice.py`

```
import wave
wf=wave.open('jjs16.wav')
a = wf.getnchannels()
print "number of channels is: ", a
b = wf.getframerate()
print "frame rate (number of frames per second) is: ",b
c = wf.getnframes()
print "total number of frames (length of signal) is", c
d = wf.getsampwidth()
print "number of bytes per frame is :", d
```

**written comments:**

```
d = wf.getsampwidth()
print "number of bytes per frame is :", d
```

```
number of bytes per frame is : 2
```

The value of width returned by `getsampwidth()` is 2, one byte is equal to 8-bit, so 16-bit is equal to two bytes.

I used the same record of my voice and save it as unsigned 8-bit PCM and signed 16-bit PCM, signed 32-bit PCM and all the wave's frequency is 16000Hz. Since I used mono, so the channel is 1. The frame rate is equal to the frequency 16000 I have choosed. And the total number of frame changed due to the length of my sound wave. The number of bytes per frame changes due to the bit I choose to save. When I opened `jjs16.wav`, it came on 2. When I opened `jjs8.wav`, it came on 1. When I opened `jjs32.wav`, it came on 4.