

# ECE 2704: Signals & Systems

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Matlab Exercise-2

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1. Go to the website for audio exercises:

[http://www.eng.uwyo.edu/electrical/dsp\\_audio/](http://www.eng.uwyo.edu/electrical/dsp_audio/)

Go to “Basic Audio” frame from there. Read the page and run the following exercises:

- (a) Execute the code:

```
n=0:(2*8000)-1;
Y=sin(2*pi*1000/8000*n);
sound(Y,8000)
```

- (b) Execute the following code:

```
for n=1:10,
    playtone(1000*n,1,10000);
    pause(2);
end
```

(You will need the playtone program from that website).

Write a brief report on the results.

2. Consider the system

$$\frac{dy(t)}{dt} = -\frac{1}{2}y(t) + x(t)$$

Define a time sequence:

```
t=[0:10];
```

The system is modeled in Matlab by:

```
b=1;
a=[1 0.5];
```

Now, use the step command and impulse command in Matlab to calculate the step and impulse response of the system and plot the results. You can use:

```
s=step(b,a,t);
h=impulse(b,a,t);
```