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ENGS 22; Lab 1 - Matlab Prelab

Calculate and plot a decaying sinusoid Sep 17th, 2024 Bob B Moriasi

```
close all
clear
clc
```

Setup Constants

create a time array that is 1000 points from 0 to 8

```
time = linspace(0, 8, 1000);

% constants for equation
T=1;         % time constant (s)
wd=4;        % damped natural frequency (rads/s)
A=1;         % amplitude (unites not specified)
P=pi/2;      % phase shift (radians)
```
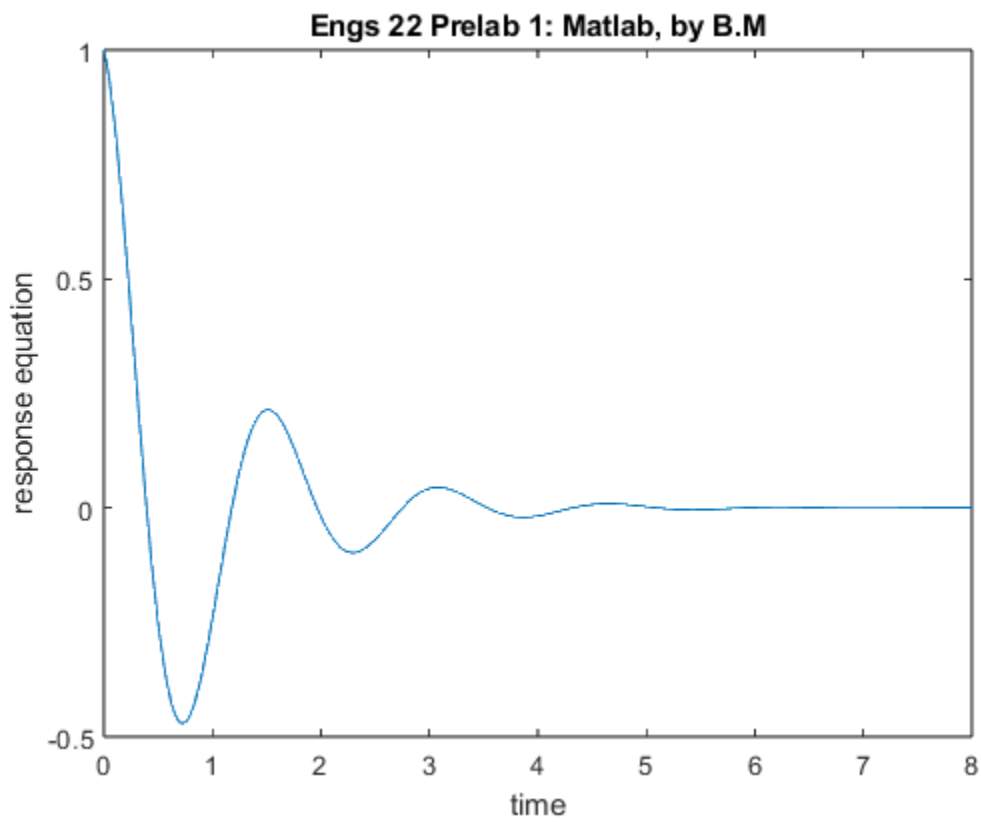
Calculate & Plot

calculate equation, using the array 'time ' as the independent variable

```
eqn = A * exp(-time / T) .* sin(wd * time + P);
plot(time, eqn);

% add info to your plot
title("Engs 22 Prelab 1: Matlab, by B.M");
xlabel("time");
ylabel("response equation");
```

Engs 22 Prelab 1: Matlab, by B.M

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