

---

# EE 313 Fa19, MATLAB Exercise 2 Plot Outputs

```
clear
close all

% For problems 1 through 3, create 5 sub-plots:
% 1. Time domain x[n] vs time (sec)
% 2. One-sided, P1, Frequency domain X[k] vs sample number
% 3. One-sided, P1, Frequency domain X[k] vs frequency (Hz)
% 4. Two-sided, P2, Frequency domain X[k] vs sample number
% 5. Two-sided, P2, Frequency domain X[k] vs frequency (Hz)

% For problem 4, create 6 sub-plots
% 1. Time domain Re(x[n]) vs time (sec)
% 2. Time domain Im(x[n]) vs time (sec)
% 3. One-sided, P1, Frequency domain X[k] vs sample number
% 4. One-sided, P1, Frequency domain X[k] vs frequency (Hz)
% 5. Two-sided, P2, Frequency domain X[k] vs sample number
% 6. Two-sided, P2, Frequency domain X[k] vs frequency (Hz)

% dummy output
out=zeros(1,101);
t=0:0.1:10;
n1=0:100;
f1=0:0.1:10;
n2=-50:50;
f2=-5:0.1:5;

figure
subplot(3,2,[1,2]);plot(t,out);xlabel('Time (sec)');title('Time
domain')
subplot(3,2,3);plot(n1,out);xlabel('Sample Number, k');title('P1 vs.
Sample Number')
subplot(3,2,4);plot(n2,out);xlabel('Sample Number, k');title('P2 vs.
Sample Number')
subplot(3,2,5);plot(f1,out);xlabel('Frequency (Hz)');title('P1 vs.
Frequency');
subplot(3,2,6);plot(f2,out);xlabel('Frequency (Hz)');title('P2 vs.
Frequency');

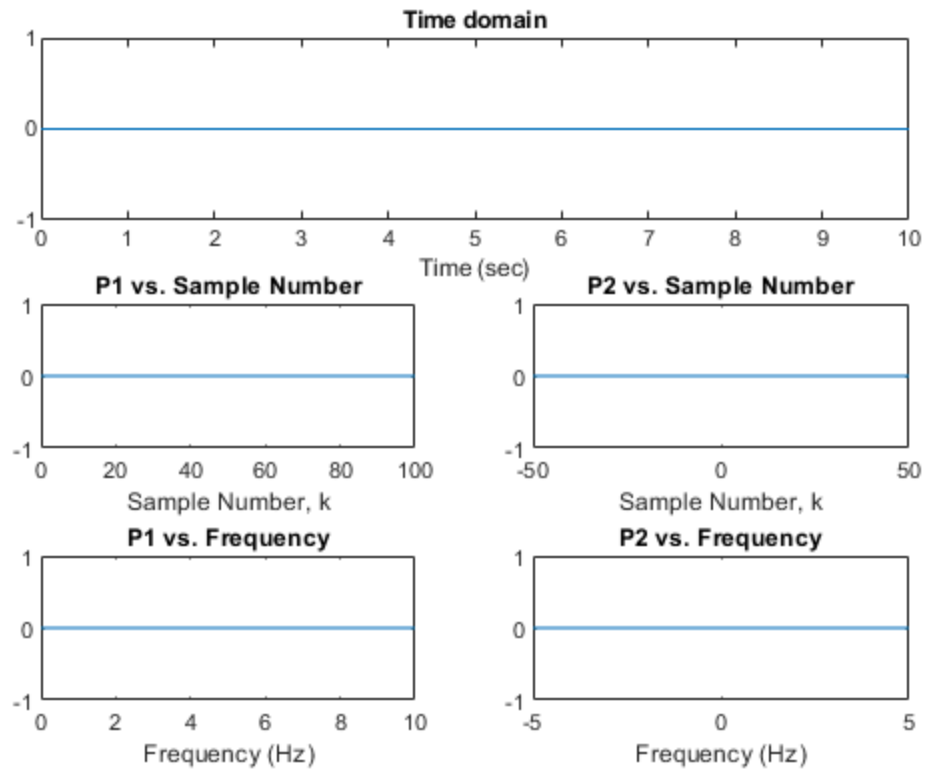
figure
subplot(3,2,1);plot(t,out);xlabel('Time (sec)');title('Time domain --
Real Part')
subplot(3,2,2);plot(t,out);xlabel('Time (sec)');title('Time domain --
Imag Part')
subplot(3,2,3);plot(n1,out);xlabel('Sample Number, k');title('P1 vs.
Sample Number')
subplot(3,2,4);plot(n2,out);xlabel('Sample Number, k');title('P2 vs.
Sample Number')
subplot(3,2,5);plot(f1,out);xlabel('Frequency (Hz)');title('P1 vs.
Frequency');
```

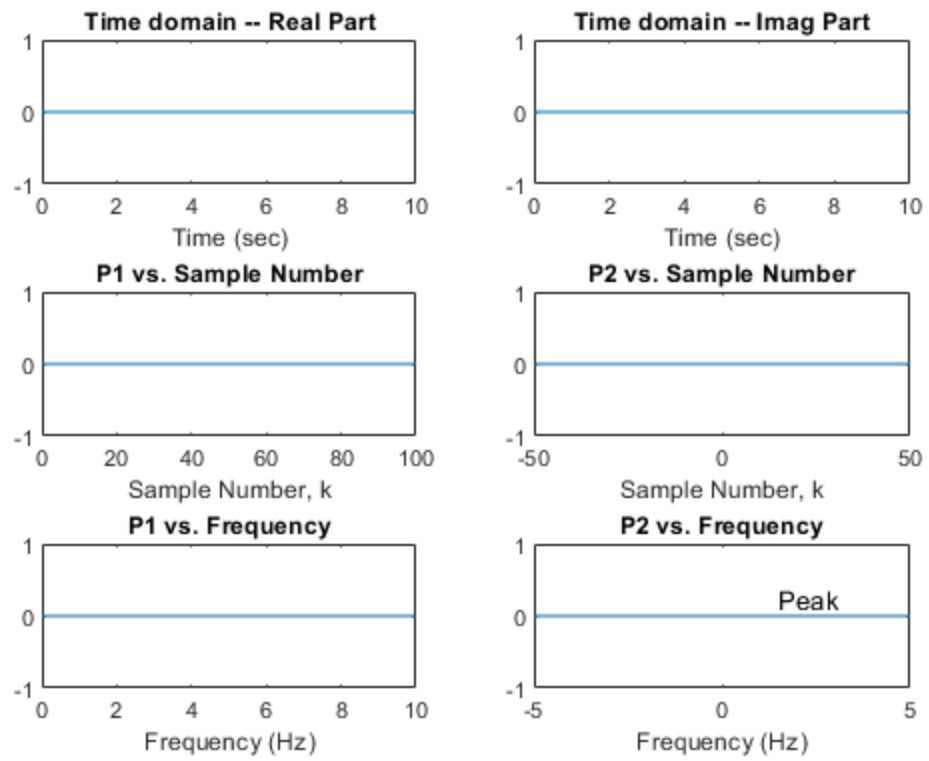
---

```

subplot(3,2,6);plot(f2,out);xlabel('Frequency (Hz)');title('P2 vs.
Frequency');
% Annotate after identifying signals
% Assume we're trying to identify a peak located at (x,y)=(1.5,0), you
% might try:
%text(1.5,0,'Peak');
% or offset it a bit
text(1.5,0.25,'Peak');
% Note (x,y) are in data units

```





*Published with MATLAB® R2019a*