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#Write a python program to plot Power Spectral Density for a random signal
#Homework
#1) What is sampling frequency
#2) What is semilog in python
#3) What is psd function in python
#4) What is fft function in python


fs=1000.0
F1=10
F2=60
T=10
NO=-10


import numpy as np
import matplotlib.pyplot as plt
import scipy.signal


t= np.r_[0:T:(1/fs)] #sample times



#Two sine signal components at frequencies F1 and F2.
signal= np.sin(2*F1*np.pi*t)+np.sin(2*F2*np.pi*t)



#White noise with power N0
signal+=np.random.randn(len(signal))*10**(NO/20.0)


#f contains the frequency components
#S is the psd
(f, S)=scipy.signal.periodogram(signal,fs,scaling='density')
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✓ 0s completed at 1:33 PM