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%STATEMENT:Write a program to calculate and plot PSD and Autocorrelation of a
Gaussian (Normal) Process

n= 1000; %num of random values from Gaussian distribution

mu=0; %mean

sigma =1;%standard deviation

y=normrnd(mu, sigma,1,n);%Array of randomly choosen sample

%generting white noise with mean=0 and variance=1

Gy=periodogram(y); %used to find PSD

Ry=abs(ifft (Gy, 256)); %used for absolute value
Ry=[Ry(130:256)' Ry(1:129)'];

t=-127:1:128;

figure

subplot(1,2,1)

plot(Gy)

xlabel('frequency samples')

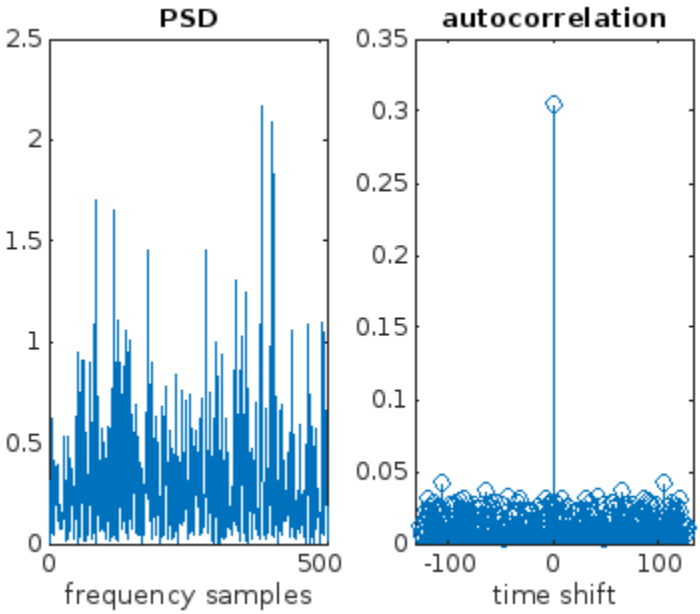
title('PSD')

subplot(1,2,2)

stem(t, Ry) %stem displays the discrete values

xlabel('time shift')

title("autocorrelation")
```



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