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## Table of Contents

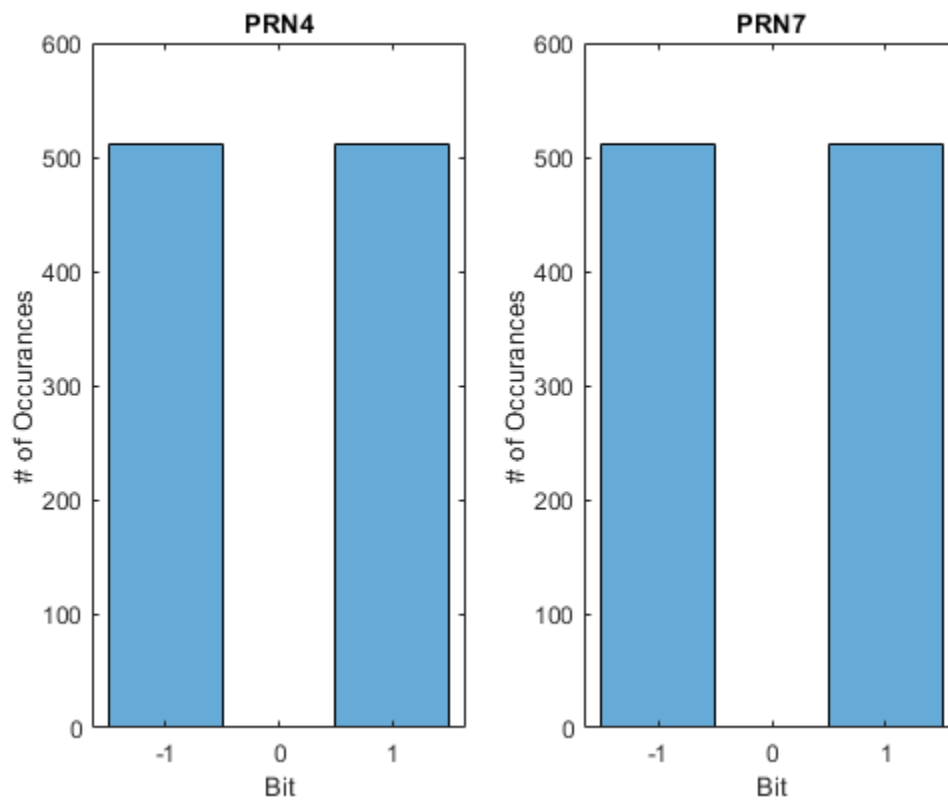
.....	1
Question 8 - Part A .....	1
Question 8 - Part B .....	2
Question 8 - Part C .....	3
Question - Part D .....	4

```
clear;clc;close all
```

## Question 8 - Part A

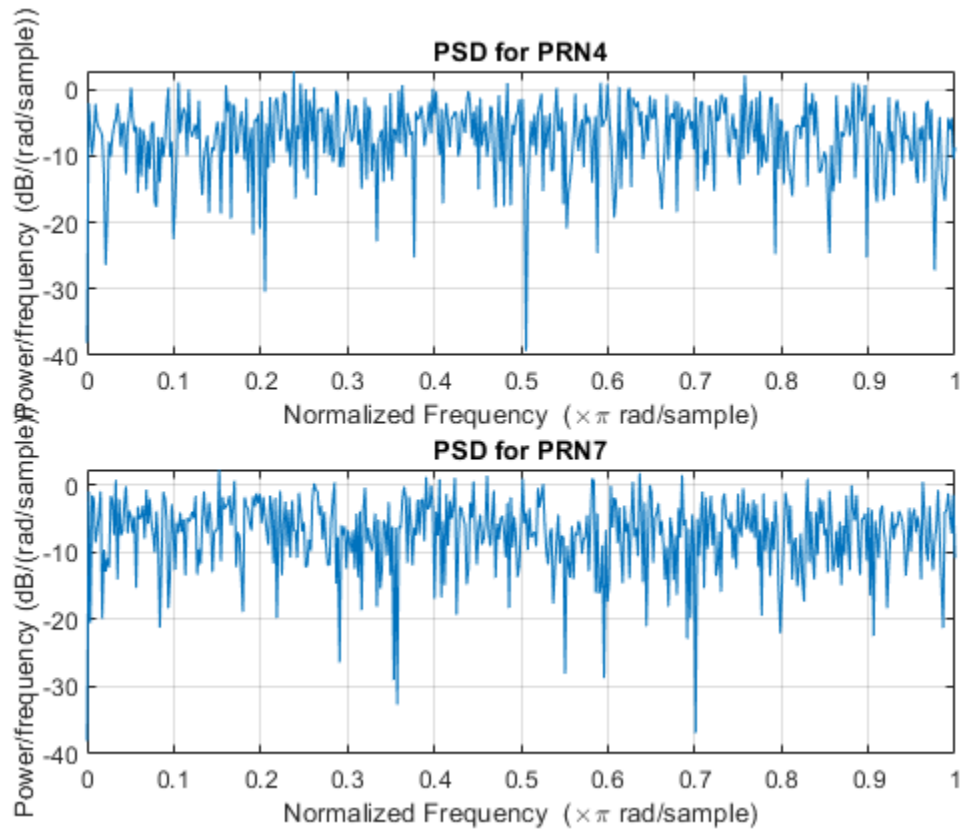
```
PRN4 = CA_Code_Gen(4,1,-1);  
PRN7 = CA_Code_Gen(7,1,-1);
```

```
subplot(1,2,1)  
histogram(PRN4)  
title("PRN4")  
xlabel("Bit")  
ylabel("# of Occurances")  
subplot(1,2,2)  
histogram(PRN7)  
title("PRN7")  
xlabel("Bit")  
ylabel("# of Occurances")
```



## Question 8 - Part B

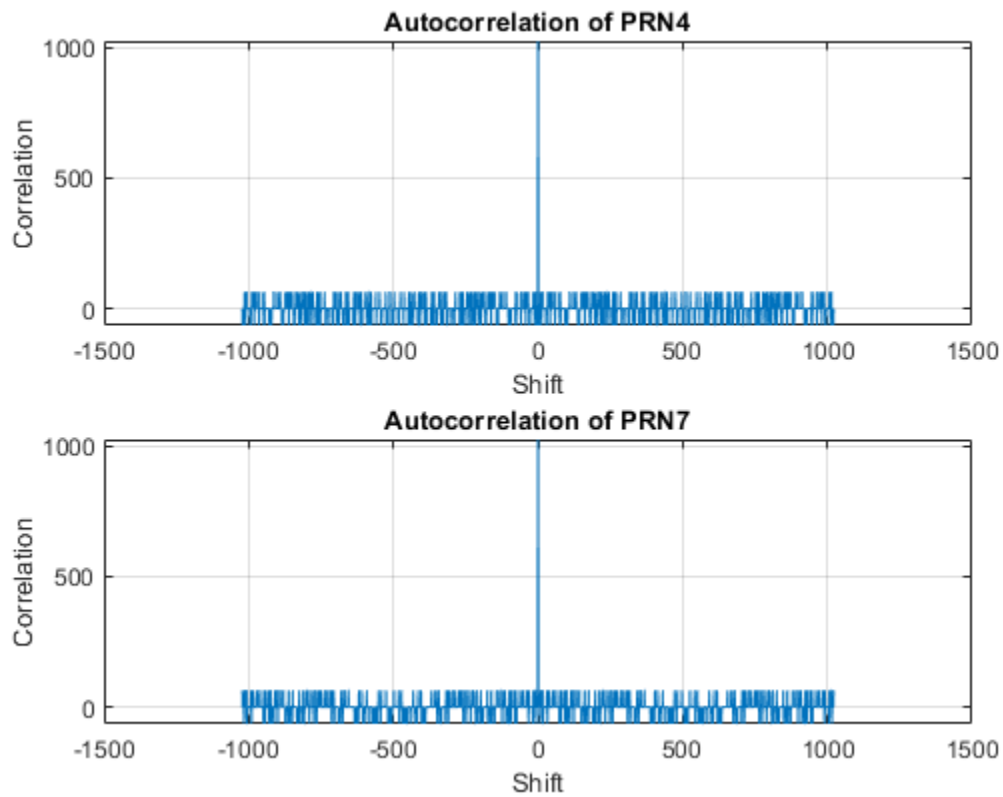
```
figure
subplot(2,1,1)
periodogram(PRN4)
title("PSD for PRN4")
subplot(2,1,2)
periodogram(PRN7)
title("PSD for PRN7")
```



## Question 8 - Part C

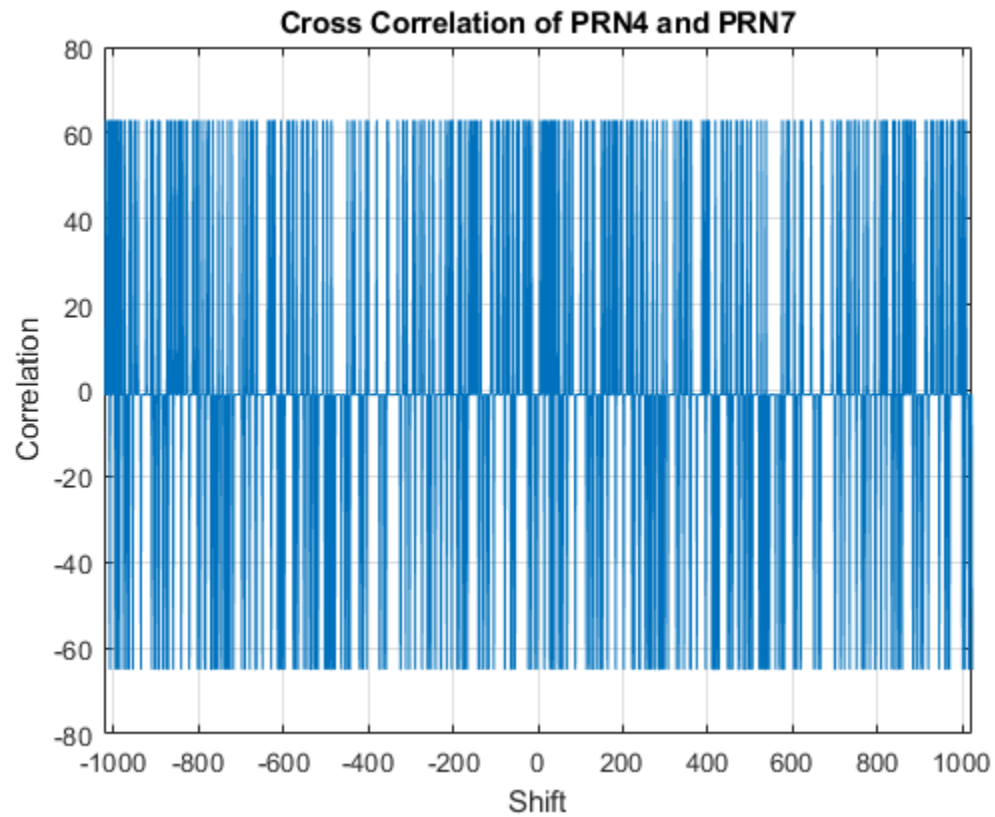
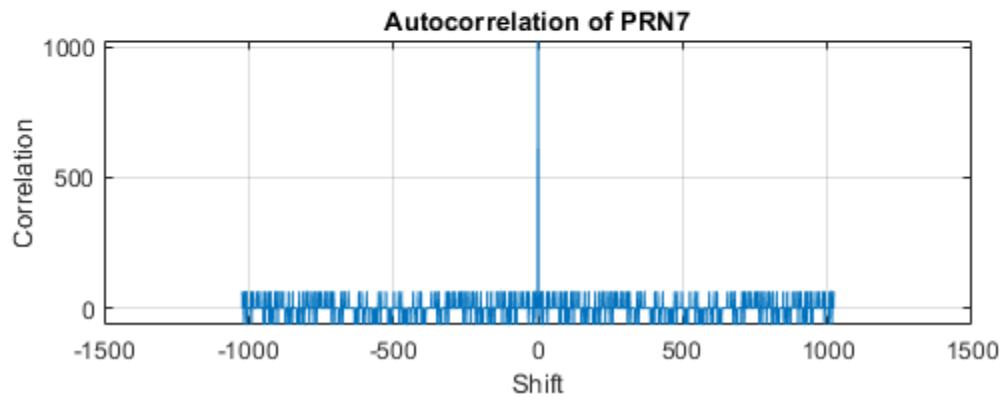
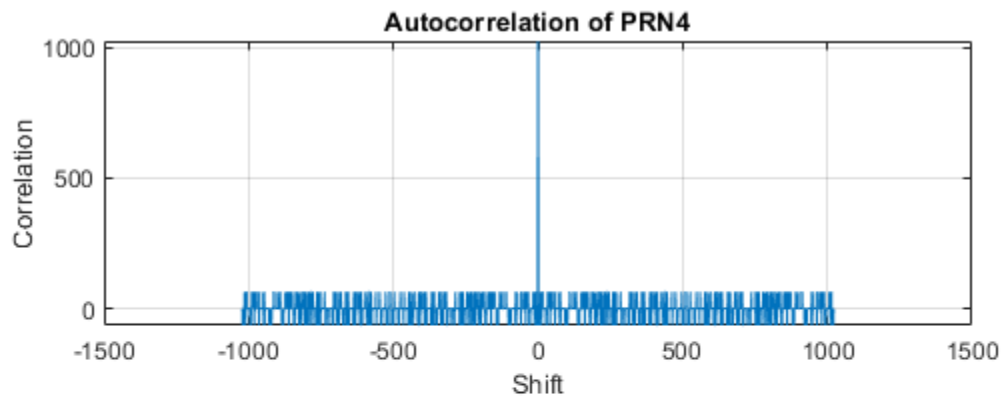
```
[acorr_PRN4,idx4] = cxcorr(PRN4);  
[acorr_PRN7,idx7] = cxcorr(PRN7);
```

```
figure  
subplot(2,1,1)  
plot(idx4,acorr_PRN4)  
grid on  
title("Autocorrelation of PRN4")  
xlabel("Shift")  
ylabel("Correlation")  
subplot(2,1,2)  
plot(idx7,acorr_PRN7)  
grid on  
title("Autocorrelation of PRN7")  
xlabel("Shift")  
ylabel("Correlation")
```



## Question - Part D

```
[xcorr_PRN47,idx47] = cxcorr(PRN4,PRN7);  
  
figure  
plot(idx47,xcorr_PRN47)  
grid on  
title("Cross Correlation of PRN4 and PRN7")  
xlabel("Shift")  
xlim([idx47(1) idx47(end)])  
ylabel("Correlation")
```



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