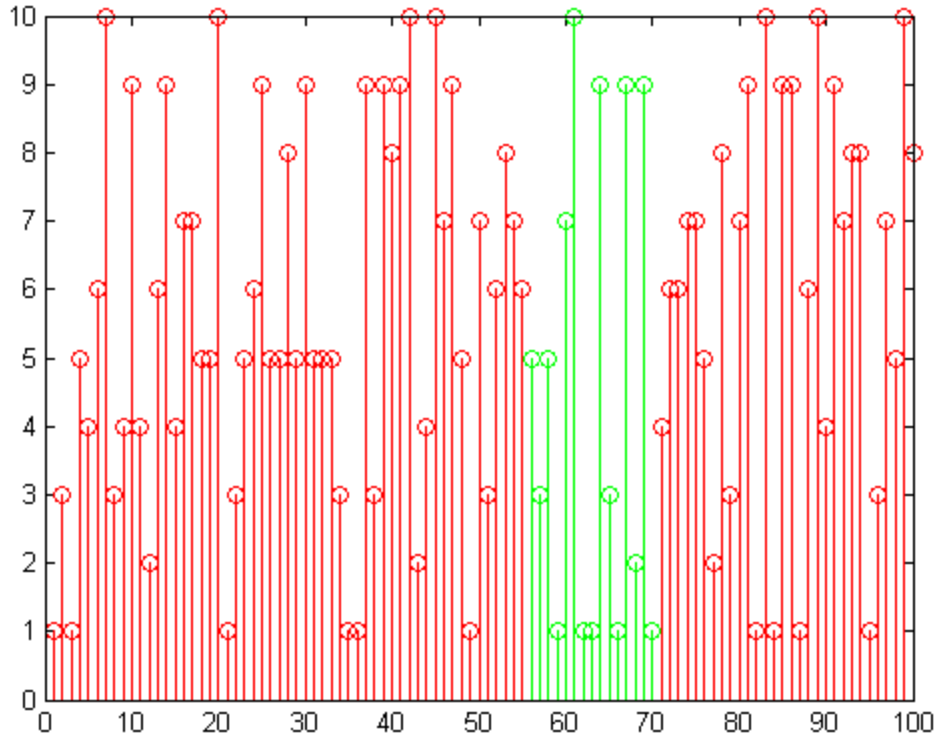
```
close all ;
clear ;
clc ;

x = randi(10,100,1) ;
start = randi(length(x)-3,1,1) ;

len_y = randi(100-start,1,1) ;
y = x(start:(start+len_y),1) ;

corrLength = length(x)-length(y)+1 ;

corr = zeros(corrLength,1) ;
autocorr = zeros(corrLength,1) ;

ryy0 = sum(y.*y) ;

for i = 1:corrLength
    corr(i,1) = sum(x(i:(i+length(y)-1),1).*y) ;

    rxx0 = sum(x(i:(i+length(y)-1)).*x(i:(i+length(y)-1)))  ;

    autocorr(i,1) = corr(i,1) / sqrt(rxx0*ryy0) ;
end

for i = 1:length(autocorr)
    if autocorr(i,1) == 1
        match = i ;
        break ;
    end
end

sub_sig = zeros(length(x),1) ;

j = 1 ;
for i = match:(match+length(y)-1)
    sub_sig(i,1) = y(j,1) ;
    j = j+1 ;
end

new_sig = x - sub_sig ;

figure ;
stem(x,'r') ;
hold on ;
stem(start:(start+len_y),y,'g') ;
figure ;
stem(new_sig,'b') ;
```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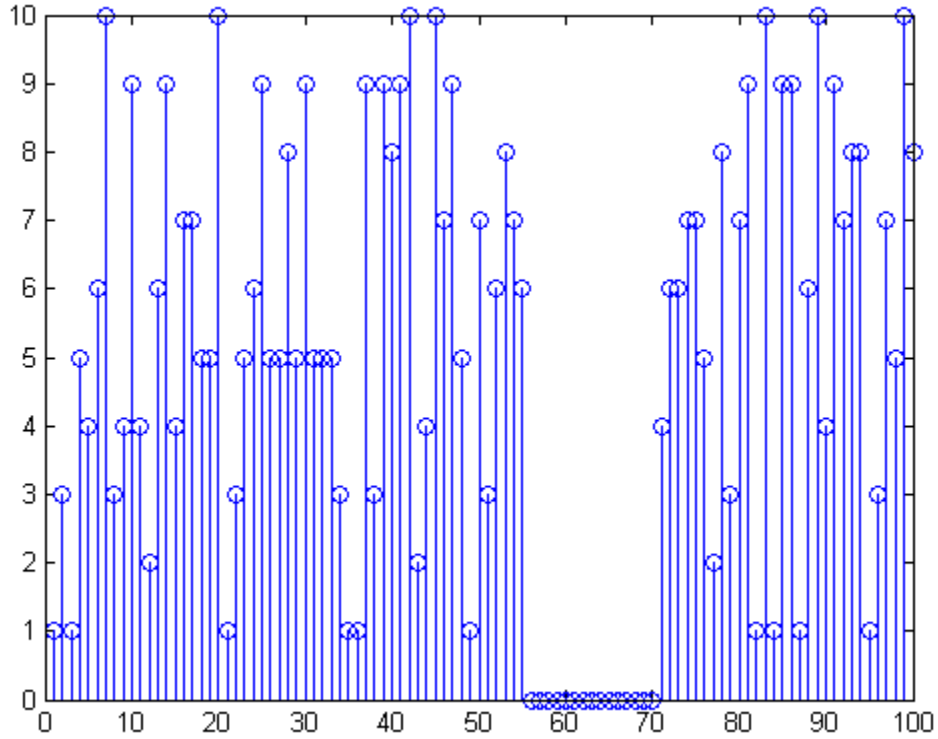
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