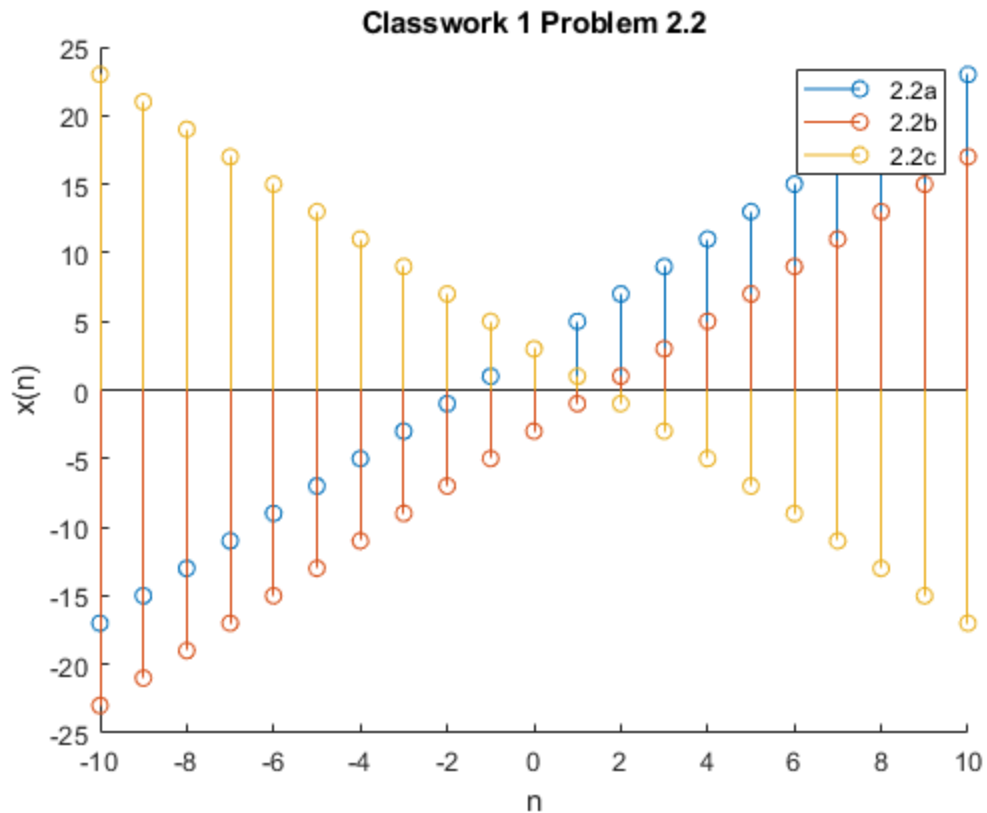

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Classwork 1 Problem 2.2

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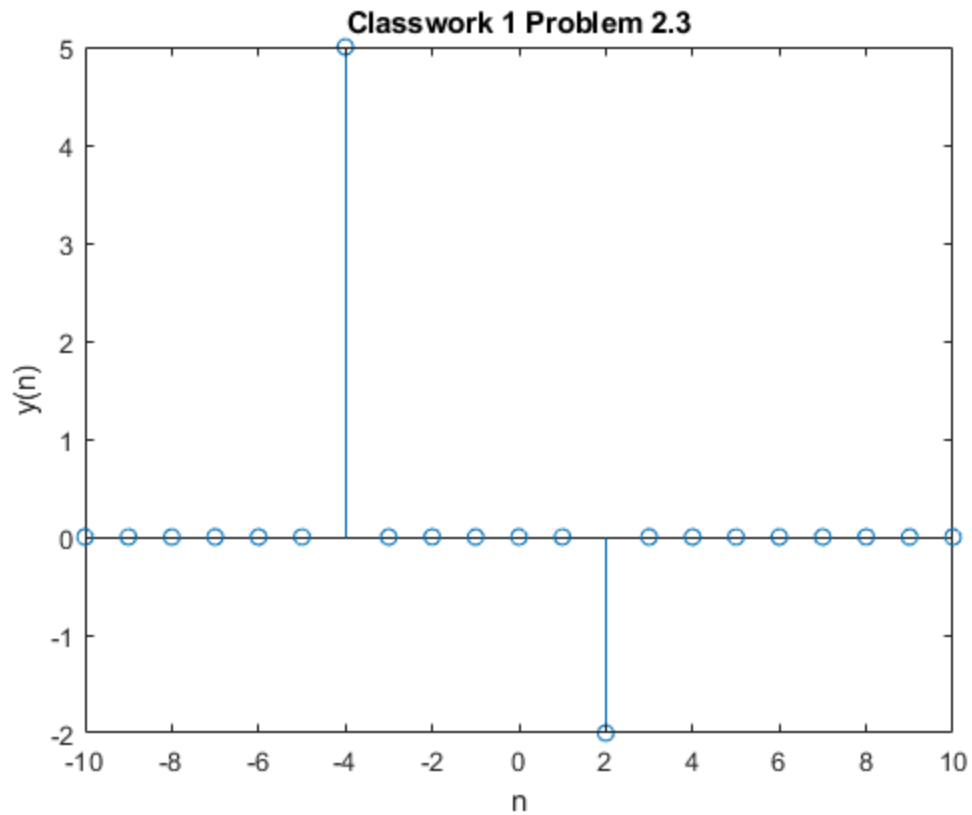
```
x = @(n) ((2 * n) + 3); % given
n = -10:10; % given
% 2.2 a)
hold on;
xlabel('n');
ylabel('x(n)');
title('Classwork 1 Problem 2.2');
stem(n, x(n));
% 2.2 b)
x_d = time_shift(x, n, 3);
stem(n, x_d);
% 2.2 c)
stem(n, x(-n));
legend('2.2a', '2.2b', '2.2c');
```



Classwork 1 Problem 2.3

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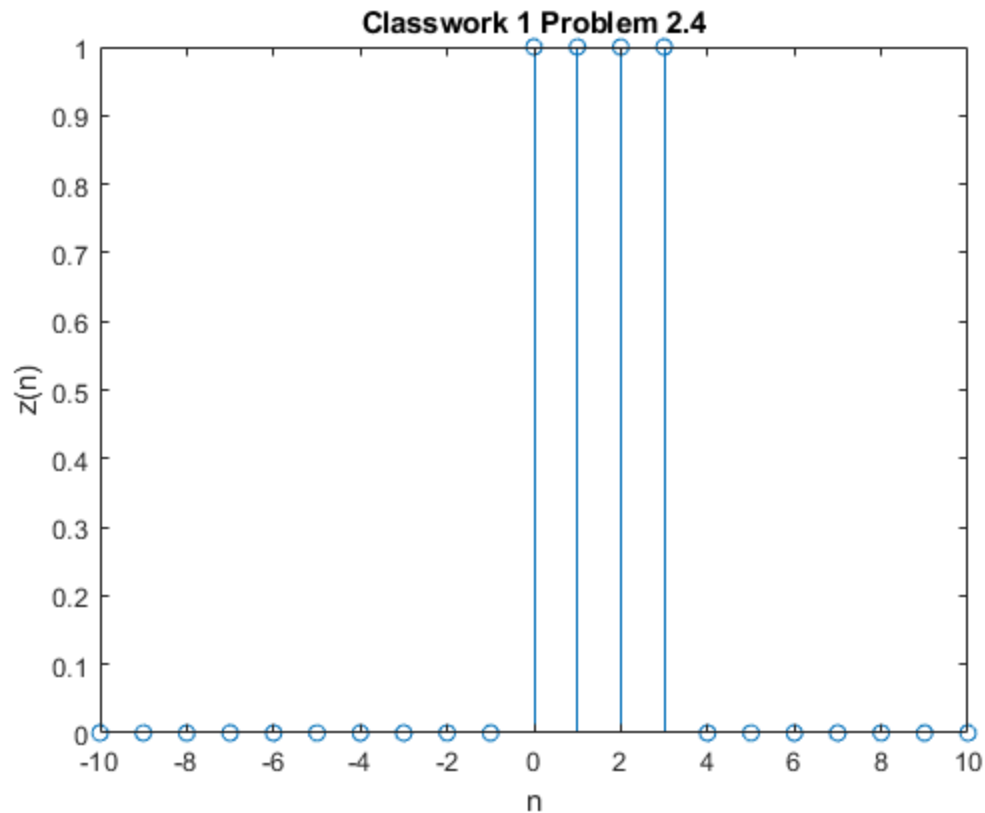
```
clf;
y1 = (5 * unit_impulse(-4, -10, 10) - (2 * unit_impulse(2, -10,
    10))); % given
stem(n, y1);
xlabel('n');
ylabel('y(n)');
title('Classwork 1 Problem 2.3');
```



Classwork 1 Problem 2.4

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```
clf;  
z = unit_step(0, -10, 10) - unit_step(4, -10, 10); % given  
stem(n, z);  
xlabel('n');  
ylabel('z(n)');  
title('Classwork 1 Problem 2.4');
```



Classwork 1 Problem 3.1

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```
clf; close; clear; clc;  
x = importdata('SAMPLE_ECG.mat');
```

Classwork 1 Problem 3.2

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```
t = linspace(1, 2000, length(x));  
y = zeros(1, length(x));  
  
for n = 1:length(t)-2 % make y(n)  
    y(n) = (x(n) + x(n+1) + x(n+2)) / 3;  
end
```

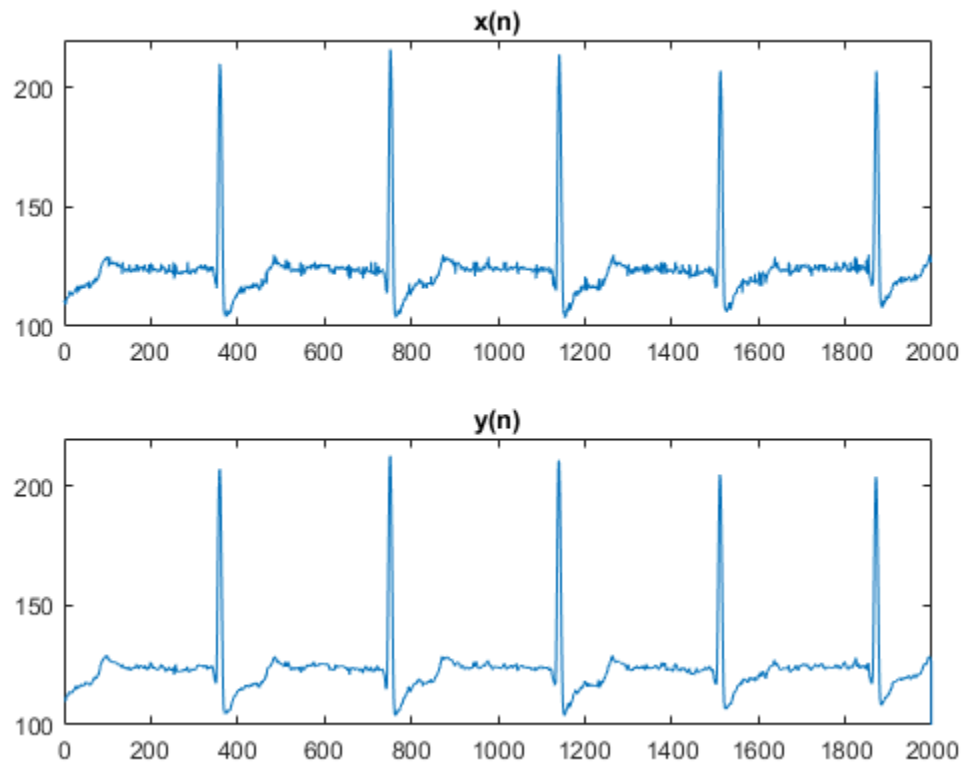
Classwork 1 Problem 3.3

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```
subplot(2, 1, 1)  
plot(t, x)  
axis([0 2000 100 220])
```

```
title('x(n)')

subplot(2, 1, 2)
plot(t, y)
axis([0 2000 100 220])
title('y(n)')
```



Classwork 1 Problem 3.4

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% Yes, $y(n)$ is smoother than $x(n)$.

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