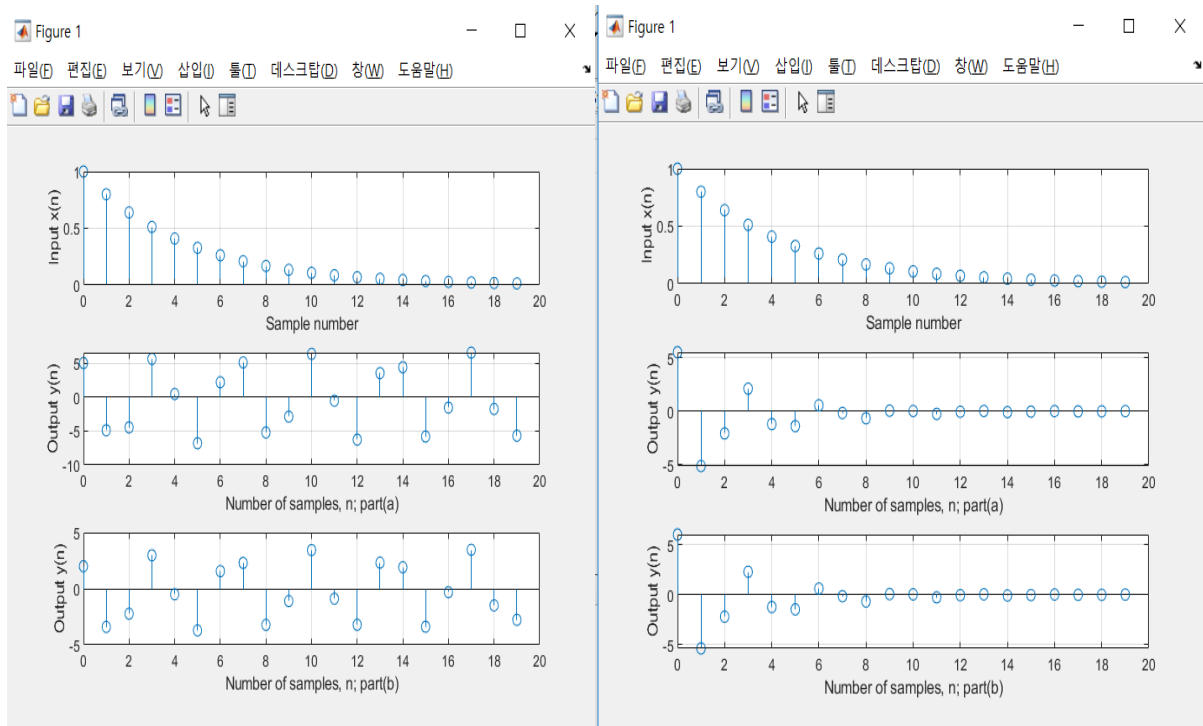# DSP Assignment #13

융합공학부 20153865 김민석

code

<mark>>> % #1</mark>

>> %20153865 김민석

>> y = zeros(1,20);

>> y = [1 0 y];

>> n = 0:1:19;

>> x = (0.8).^n;

>> x = [0 -1 x];

>> for n=1:20

y(n+2)= 2*x(n+2)-4*x(n+1)-0.5*y(n+1)-y(n);

end

>> n=0:1:19;

>> subplot(3,1,1);stem(n,x(3:22));grid;ylabel('Input   x(n)');xlabel('Sample

number');

>> subplot(3,1,2);stem(n,y(3:22)),grid;xlabel('Number of samples, n; part(a)'); ylabel('Output y(n)');

>> y = zeros(1,20);

>> y = [0 0 y];

>> n = 0:1:19;

>> x = (0.8).^n;

>> x = [0 0 x];

>> for n = 1:20

y(n+2)= 2*x(n+2)-4*x(n+1)-0.5*y(n+1)-y(n);

end

>> n = 0:1:19;

>> subplot(3,1,3); stem(n,y(3:22)),grid;

>> xlabel('Number of samples, n; part(b)'); ylabel('Output y(n)');

>> y(3:22)

>> clear

<mark>>> % #2</mark>

>> y = zeros(1,20);

>> y = [1 0 y];

>> n = 0:1:19;

>> x = (0.8).^n;

>> x = [0 -1 x];

>> for n=1:20

y(n+2)= 2*x(n+2)-4*x(n+1)-0.5*y(n+1)-0.5*y(n);

end

>> n=0:1:19;

>> subplot(3,1,1);stem(n,x(3:22));grid;ylabel('Input x(n)');xlabel('Sample number');

>> subplot(3,1,2);stem(n,y(3:22)),grid;xlabel('Number of samples, n;

```
part(a)'); ylabel('Output y(n)');
>> y = zeros(1,20);
>> y = [0 0 y];
>> n = 0:1:19;
>> x = (0.8).^n;
>> x = [0 0 x];
>> for n = 1:20
y(n+2)= 2*x(n+2)-4*x(n+1)-0.5*y(n+1)-0.5*y(n);
end
>> n = 0:1:19;
>> subplot(3,1,3); stem(n,y(3:22)),grid;
>> xlabel('Number of samples, n; part(b)'); ylabel('Output y(n)');
>>y(3:22)
```