CHANDAN DHAMANDE

https://github.com/nitrogen404/Semester-5/tree/master/DSP/LABS/LAB_1

20190802117

Digital Signal Processing
Lab - 1

Aim: To generate the discrete time sequences of:

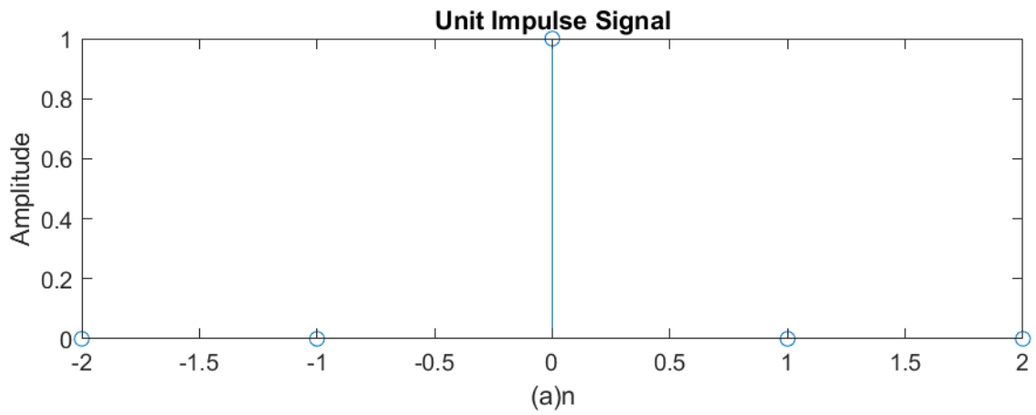
(a) Unit impulse sequence
(b) Unit step sequence
(c) Ramp sequence
(d) Exponential sequence
(e) Sinusoidal sequence
(f) Cosine sequence.

Tools: MATLAB R2019a

Code:

a) Unit impulse sequence

```
 % Discreate time sequence for UNIT IMPULSE SIGNAL
clc;
clear all;
close all;
t = -2:1:2;
y = [zeros(1,2),ones(1,1),zeros(1,2)];
subplot(3,2,1);
stem(t,y);
ylabel('Amplitude');
xlabel('(a)n');
title('Unit Impulse Signal');
```

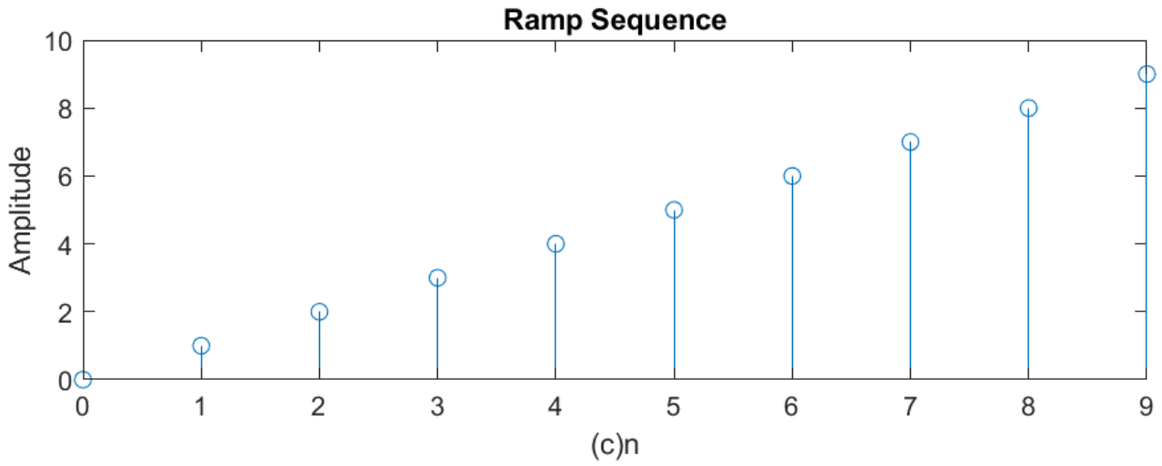


b) Unit Step Sequence

```
n=input('enter the N value ');
t=0:1:n-1;
y=ones(1,n);
subplot(3,2,2);
stem(t,y);
ylabel('Amplitude');
xlabel('(b)n') ;
title('Unit Step Sequence') ;
```

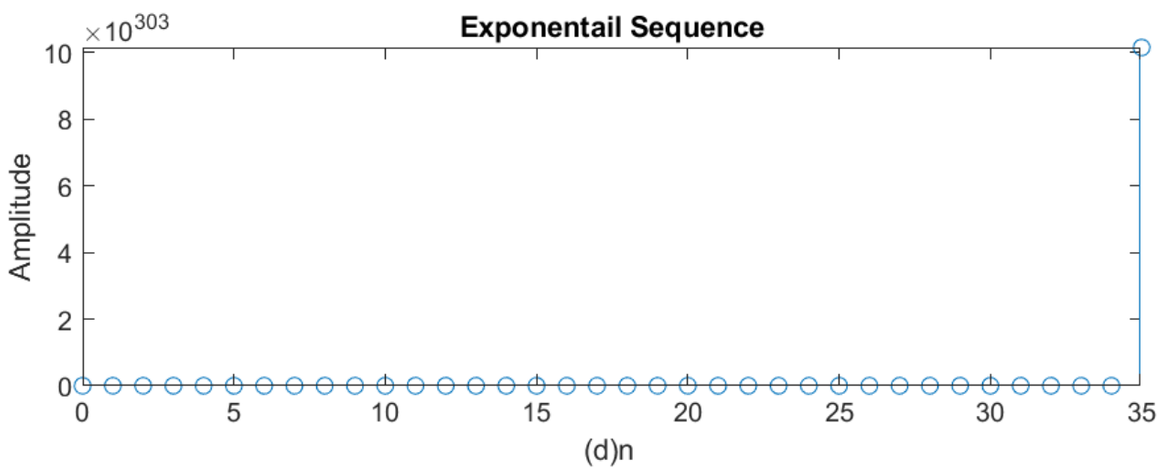
c) Ramp Sequence

```
n=input(‘enter the length of ramp sequence ‘) ;
t=0:n-1 ;
subplot(3,2,3) ;
stem(t,t) ;
ylabel(‘Amplitude’) ;
xlabel(‘(c)n’) ;
title(‘Ramp Sequence’) ;
```



c) Exponential Sequence

```
n=input(‘enter the length of exponential sequence ‘) ;
t=0:n ;
a=input(‘enter the value of a ‘) ;
y=exp(a*t) ;
subplot(3,2,4) ;
stem(t,y) ;
ylabel(‘Amplitude’) ;
xlabel(‘(d)n ‘) ;
title(‘Exponentail Sequence’) ;
```



d) Cosine Sequence/Sinusoidal Seque

```
t=0:0.01:pi ;
y=cos(2*pi*t) ;
subplot(3,2,6) ;
plot(t,y) ;
ylabel('amplitude') ;
xlabel('(f)n') ;

title (' cosine sequence ') ;
```