**EXPERIMENT 1**

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To write a MATLAB script to generate the following waveform (Discrete-time signal)

1. Unit Impulse function

2. Unit Step function

3. Ramp sequence

4. Exponential function

5. Sinusoidal sequence

6. Random Sequence

**Code:**

clc; clear; close all;

t = (-1:0.1:1);

x = (-3:0.1:3);

impulse = t==0;

unitstep = t>=0;

ramp = t.\*unitstep;

exp = exp(t);

sine = sin(x);

rand = randi([0,1],1,21);

subplot(2,3,1);

stem(t,impulse)

xlabel('time')

ylabel('amplitude')

title('impulse function')

subplot(2,3,2);

stem(t,unitstep)

xlabel('time')

ylabel('amplitude')

title('unitstep function')

subplot(2,3,3);

stem(t,ramp)

xlabel('time')

ylabel('amplitude')

title('ramp function')

subplot(2,3,4);

stem(t,exp)

xlabel('time')

ylabel('amplitude')

title('exponential function')

subplot(2,3,5);

stem(x,sine)

xlabel('time')

ylabel('amplitude')

title('sine wave')

subplot(2,3,6);

stem(t,rand)

xlabel('time')

ylabel('amplitude')

title('random function')

**Output:**

