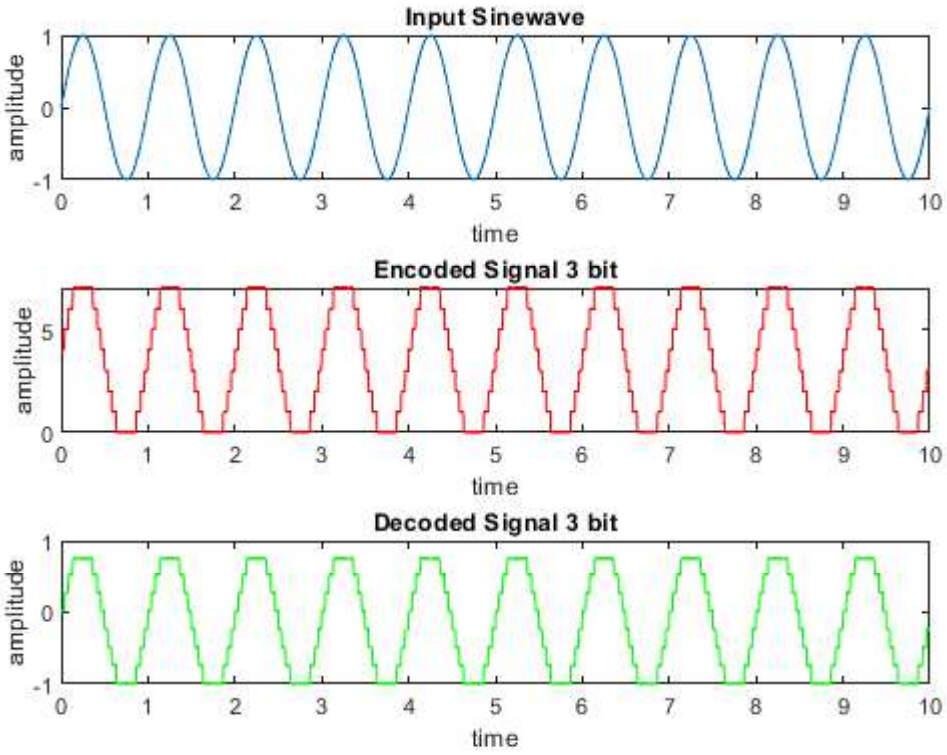
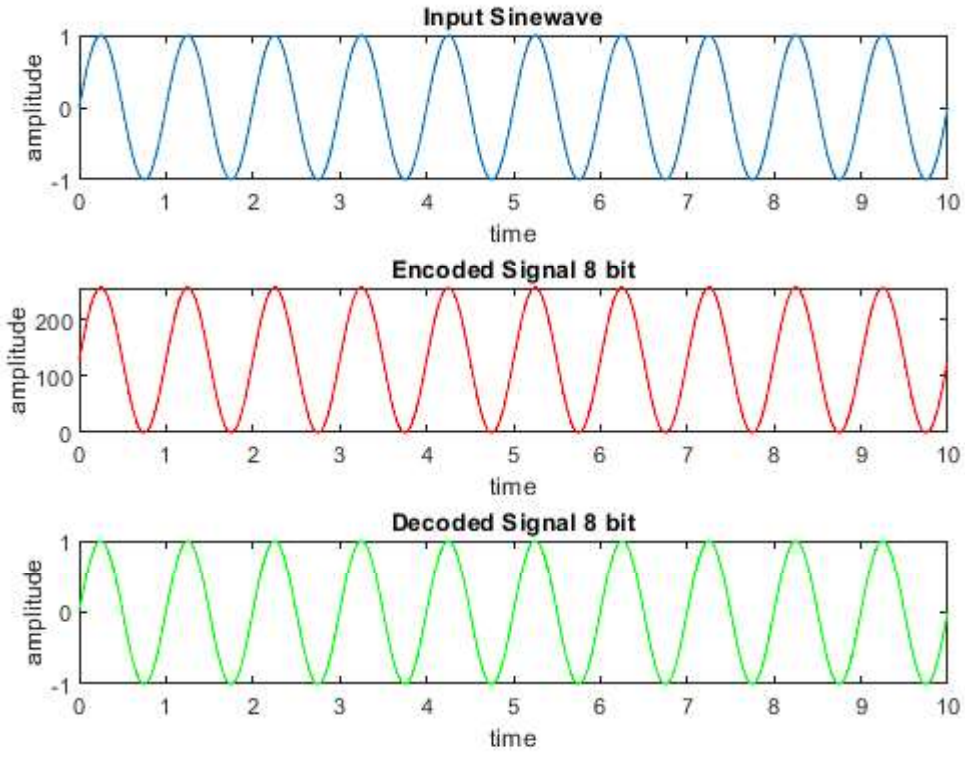
Experiment No. 2

```
% Name: Prajwal Dhopre
% Roll No.: 53
% Batch: A3
% Date: 03-02-2023

% Aim: To Perform Pulse Code Modulation

% Objective: To Obtain Pulse Code Modulated Signal By Using 3 bit, 8 bit
 Quantization for Sinusoidal Input

%3 bit quantisation
clc;
t=0:0.0001:10;
x=sin(2*pi*t);
subplot(3,1,1);
plot(t,x);
xlabel("time");
ylabel("amplitude");
title("Input Sinewave");

y=uencode(x,3);
subplot(3,1,2);
plot(t,y,'red');
xlabel("time");
ylabel("amplitude");
title("Encoded Signal 3 bit");

z=udecode(y,3);
subplot(3,1,3);
plot(t,z,'green')
xlabel("time");
ylabel("amplitude");
title("Decoded Signal 3 bit");
```




```
%8 bit quantisation
clc;
t=0:0.0001:10;
x=sin(2*pi*t);
subplot(3,1,1);
plot(t,x);
xlabel("time");
ylabel("amplitude");
title("Input Sinewave");

y=uencode(x,8);
subplot(3,1,2);
plot(t,y,'red');
xlabel("time");
ylabel("amplitude");
title("Encoded Signal 8 bit");

z=udecode(y,8);
subplot(3,1,3);
plot(t,z,'green')
xlabel("time");
ylabel("amplitude");
title("Decoded Signal 8 bit");
```



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