Experiment No. 3

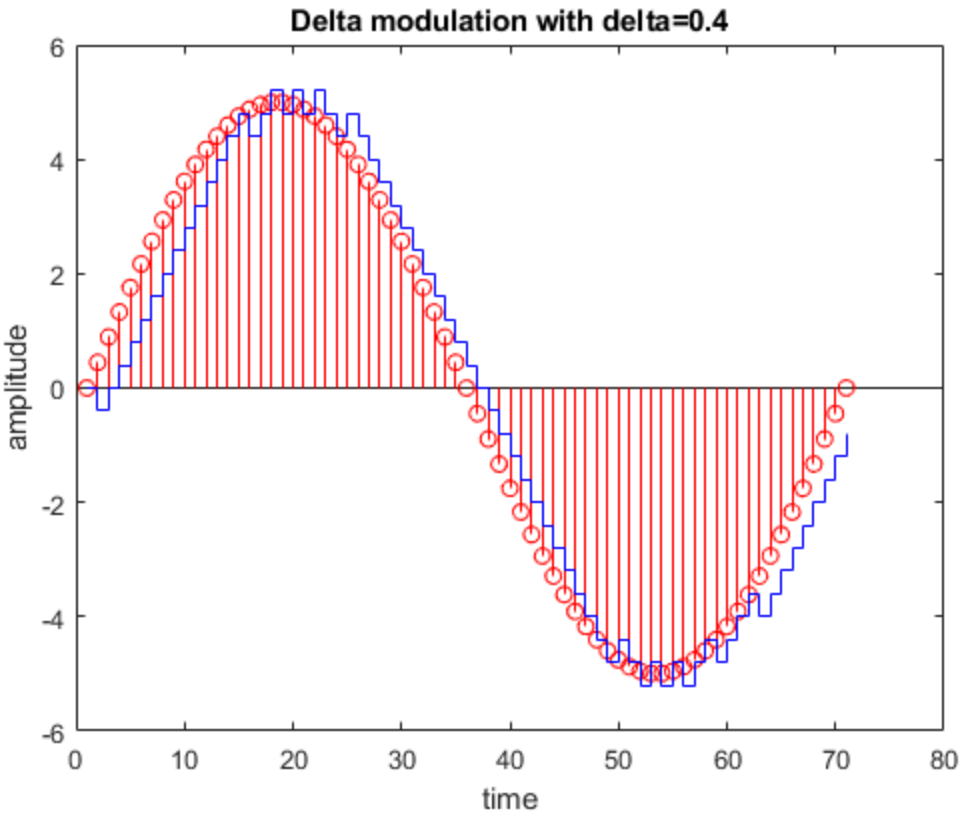
```
% Name : Prajwal Dhopre
% Roll No : 53
% Batch : A3
% Date of Performance : 10-2-23
```

Aim : To Perform Delta Modulation

Objective :TO obtain delta modulated signal with step size equal to 0.4, 0.24, 0.7

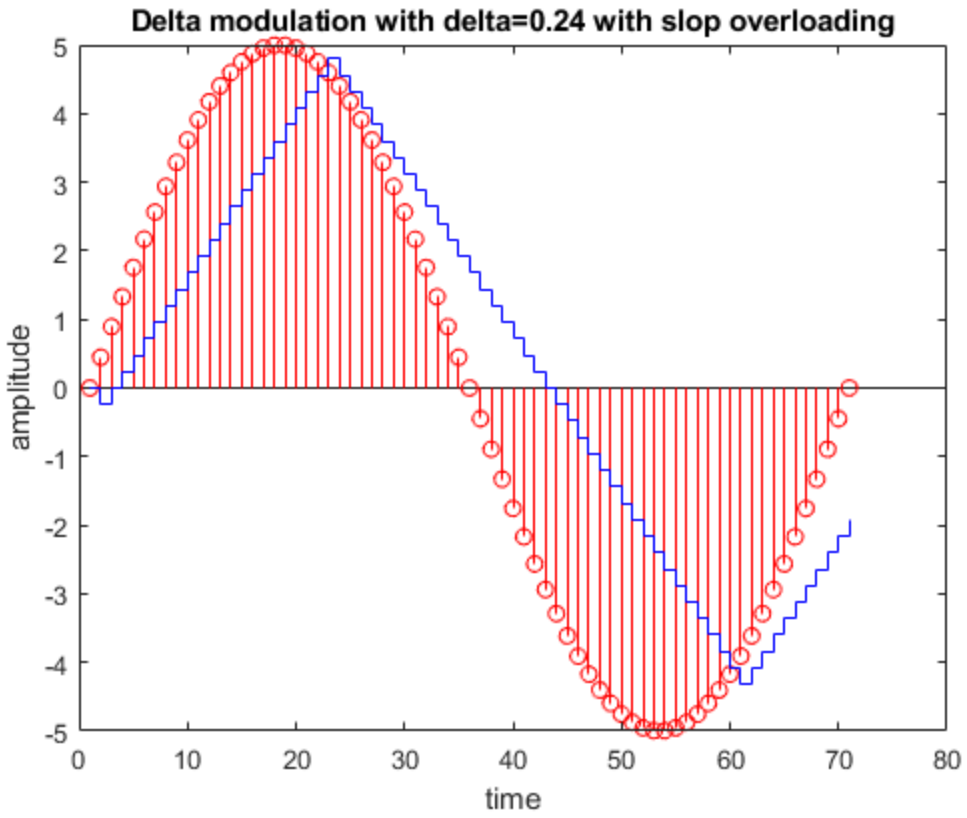
delta modulation with step size 0.4

```
clc;
del=0.4;  %step size =0.4
A=5;
t=0:(2*pi/70):2*pi;
x=A*sin(t);
stem (x,'r');
hold on;
xr=0;
for i=1:length(x)-1
  if xr(i)<x(i)
      d=1;
      xr(i+1)=xr(i)+del;
  else
      d=0;
      xr(i+1)=xr(i)-del;
  end
end
stairs(xr,'b');
xlabel('time');
ylabel('amplitude');
title('Delta modulation with delta=0.4');
hold off;
```



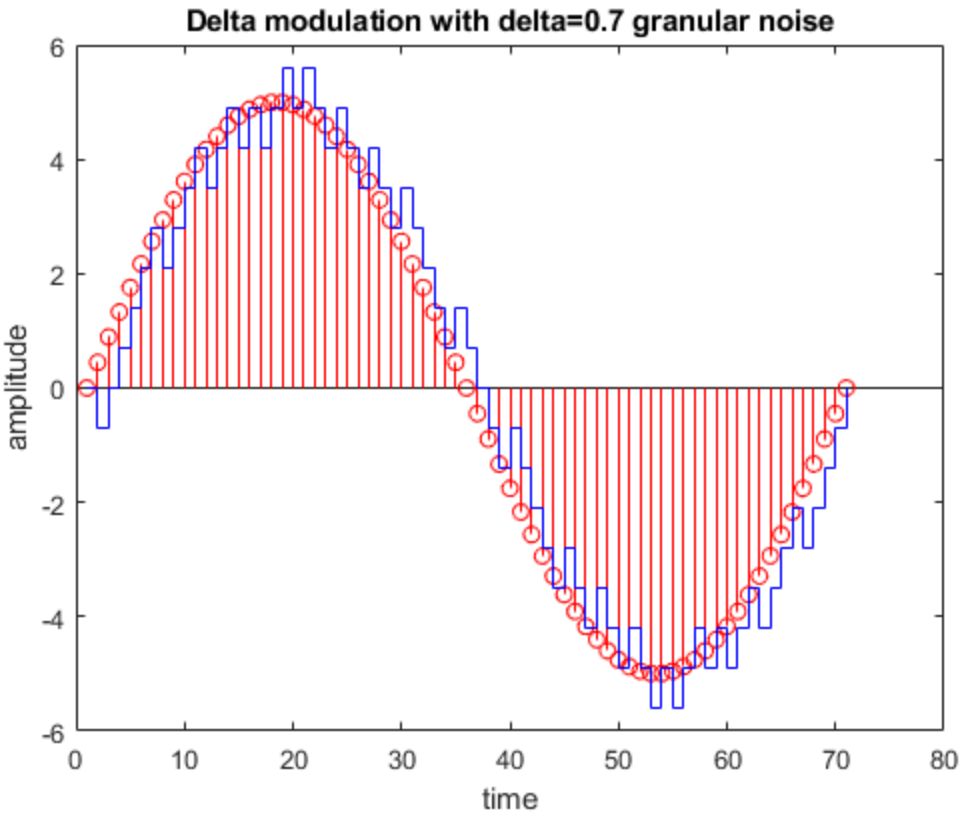
delta modulation with step size 0.24

```
clc;
del=0.24;  %step size =0.24
A=5;
t=0:(2*pi/70):2*pi;
x=A*sin(t);
stem (x,'r');
hold on;
xr=0;
for i=1:length(x)-1
  if xr(i)<x(i)
      d=1;
      xr(i+1)=xr(i)+del;
  else
      d=0;
      xr(i+1)=xr(i)-del;
  end
end
stairs(xr,'b');
xlabel('time');
ylabel('amplitude');
title('Delta modulation with delta=0.24 with slop overloading');
hold off;
```



delta modulation with step size 0.7

```
clc;
del=0.7;  %step size =0.7
A=5;
t=0:(2*pi/70):2*pi;
x=A*sin(t);
stem (x,'r');
hold on;
xr=0;
for i=1:length(x)-1
  if xr(i)<x(i)
      d=1;
      xr(i+1)=xr(i)+del;
  else
      d=0;
      xr(i+1)=xr(i)-del;
  end
end
stairs(xr,'b');
xlabel('time');
ylabel('amplitude');
title('Delta modulation with delta=0.7 granular noise');
hold off;
```



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