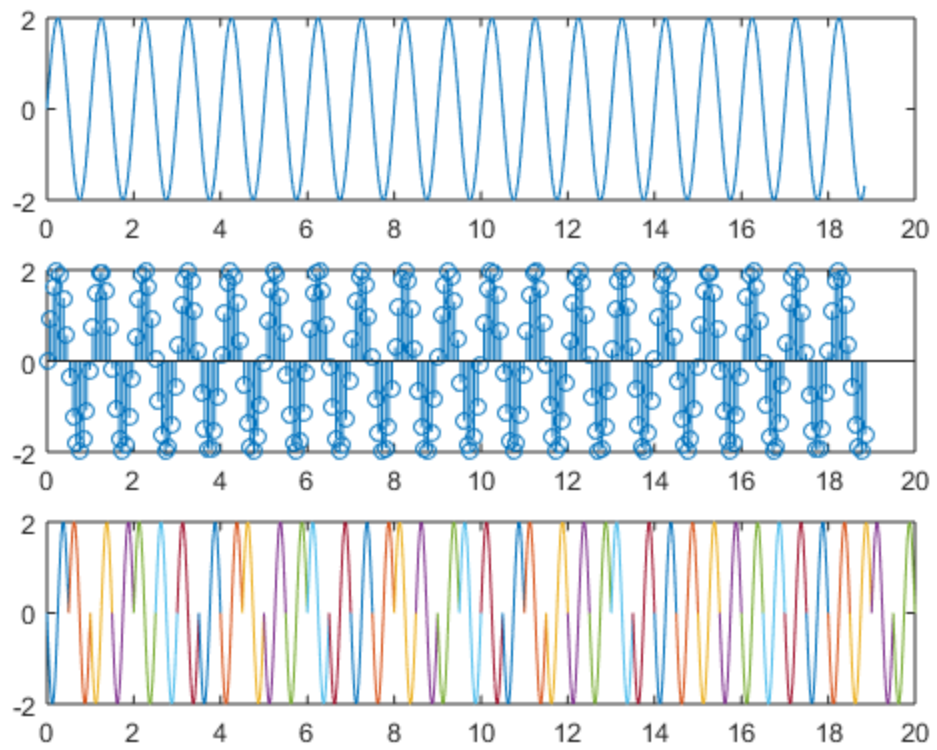```
clc
clear all
close all

% PHASE_SHIFTING_KEY
% ID 2017KUCP1011
% Name Ashish Uniyal

x=0:0.01:6*pi;
y=2*sin(2*pi*1*x);
subplot(3,1,1);
plot(x,y)
z=linspace(0,6*pi,250);
w=2*sin(2*pi*1*z);
subplot(3,1,2);
stem(z,w);
a=round(w)+2;
b=dec2bin(a,2);
c=b';
d=c(:);
e=d';
i=1;
while(i<=750)
l(i)=str2num(e(i));
i=i+1;
end;
f=0:0.001:0.5;
g=2*sin(2*pi*2*f);
h=2*sin((2*pi*2*f)+pi);
i=1;
subplot(3,1,3);
while (i<=40)
  if(l(1,i)==1)
    plot(f,g);
  elseif(l(i)==0)
    plot(f,h);
  end;
  i=i+1;
  f=f+0.5;
  hold on;
end;
```

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