

Problem 2:

Main Code:

```
a=1/2;
R=3;
n=6;
x=zeros(100000,1);
x(1)=1;
Y=multiple_echo(x,R,a,n);
subplot(2,1,1);
%plot(2,1,1);
h=abs(fftshift(fft(Y)));
plot(h)
subplot(2,1,2);
%plot(2,1,2);
plot(angle(fftshift(fft(Y))));
```

Function:

```
function y = multiple_echo(x,R,a,n)
xlen=length(x);
y = zeros(size(x));

for i=1:1:n*R+1
y(i)= x(i);
end
for i=n*R+1:1:xlen
val = 0;
for k = 1:1:n+1
val = val+((a^(k-1))*x(i-(k-1)*R));
end
y(i) = val;
end
end
```

