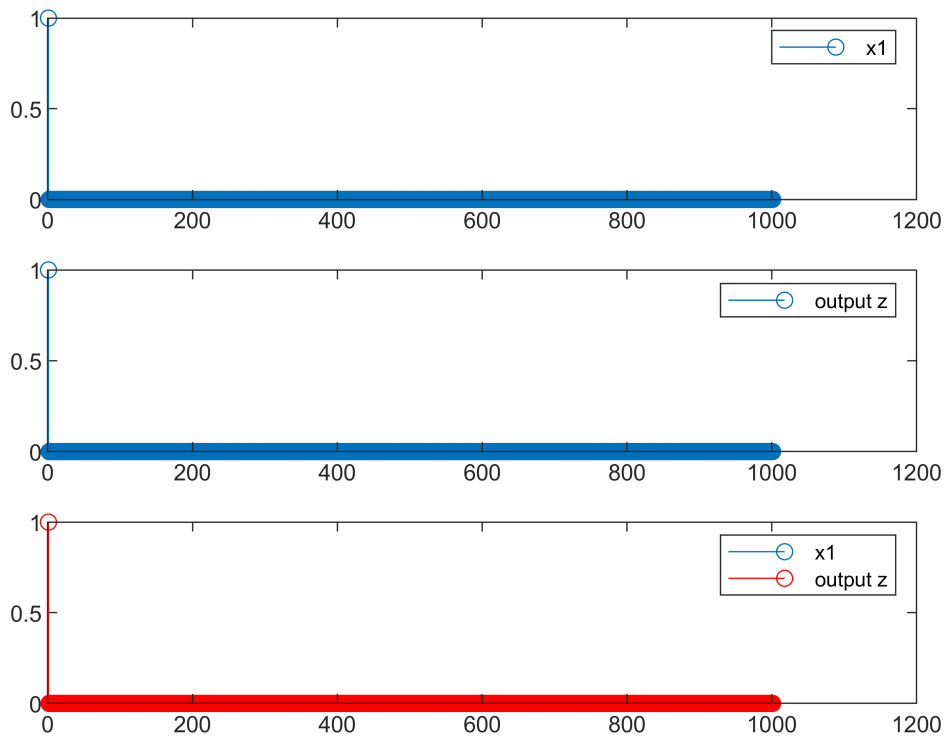```
nx1=0:1000;
x1=[1 zeros(1,1000)];
B1=[1 zeros(1,999) 0.5];
he=filter(B1,1,x1);
A1=B1;
z=filter(1,A1,he);
subplot(3,1,1);stem(x1);legend('x1');
subplot(3,1,2);stem(z);legend('output z');
subplot(3,1,3);stem(x1);hold on
stem(z,'r');legend('x1','output z');
```



```
%由图可知，z[n]=x1[n],so z[n]=x1[n] is a valid solution to the overall
%difference equation
```