

## PROBLEM:

Consider the following MATLAB program:

```
nn = 0:16000;  
xx = 3 + 2*cos(0.75*pi*nn-pi/4) + 11*cos(1.5*pi*nn-pi/3);  
yy = conv([1,0,0,0,-1]/4,xx);  
soundsc(yy,8000)
```

- What is the system function  $H(z)$  of the system that is implemented by the `conv()` statement?
- What is the frequency response of the system?
- Neglecting the end effects in the convolution, determine  $y(t)$  that describes the signal produced by the `soundsc()` statement.