

```
>> syms z;  
%Step defien the two transfer functions  
H_1 = 0.2 / (1 + 0.5*z^(-1));  
H_2 = (0.8 - 0.2*z^(-1)) / (1 - z^(-1) + 0.5*z^(-2));  
%Step2 since the 2 TF are in parallel add the TF  
H_z = H_1 + H_2  
H = simplifyFraction(H_z)  
  
H_z =  
  

$$\frac{1}{5} \left( \frac{1}{2z} + 1 \right) - \left( \frac{1}{5z} - \frac{4}{5} \right) / \left( \frac{1}{2z^2} - \frac{1}{z} + 1 \right)$$
  
  
H =  
  

$$\frac{4z^3}{(2z + 1)(2z^2 - 2z + 1)}$$
  
  
>>
```