ECE310: Quiz#9 (3pm Section E) Fall 2018

1. (5 pts) Draw the Direct Form II filter structure for a system with the following transfer function:

$$\frac{3 - z^{-1}}{1 - 0.5z^{-2}}$$

2. (5 pts) Design a length-5 GLP FIR **high-pass** filter with cutoff frequency $\omega_c = \frac{\pi}{5}$ radians. Use the window design method with a Hann window ($w[n] = 0.5 - 0.5\cos(\frac{2\pi n}{M})$ for $n = 0, ..., M$). Give your answer in terms of a closed-form expression for the filter coefficients $\{h_n\}_{n=0}^{4}$.