Homework 11 (Optional Extra Credit)
EE 313 Signals and Systems (Fall 2024)
Monday, December 9, 2024

1) 7.32a Draw z-domain signal flow graph (SFG) and find $H(z)$ by writing and combining output equations.

2) 7.32a Draw z-domain SFG and find $H(z)$ by SFG reduction.

3) 7.32 For part a), use Mason's Theorem to find $H(z)$.

4) 7.36ab For part a), do partial fractions on $H(z)/z$ to find $h[n]$. Using MATLAB, plot analytical $h[n]$ solution for $0 \leq n \leq 5$ and on another stem plot show the answer found using long division. Label stems. For each case, place the partial fractions solution plot on the top and the long division answer plot on the bottom of the same page. Attach m-files. Are the plots the same? Is the system stable or not? Why?

5) 7.39 First, find $H(z)$.

Notes:
- If done, this extra credit opportunity will replace your lowest HW *or* quiz grade (as best advantages your overall grade).

- There will be *at least* one question dealing with this material on the final.

- For problems using MATLAB, include both m-file(s) (put your name in a comment line) as well as output figures (put your name in title) for each problem and/or problem section.

Due Monday, December 16, 2024 by 11am
at my office or EECS department mail box.