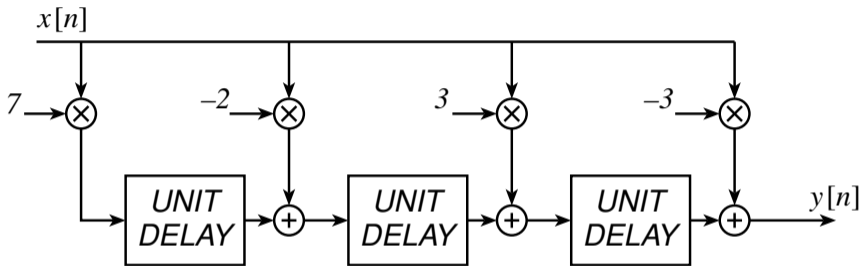


PROBLEM:

The following signal flow graph structure defines a linear time-invariant system:



- (a) Write a simple formula for the the difference equation defined by the signal flow graph.
- (b) For the following difference equation, draw a representation of this filter in a signal flow graph structure.

$$y[n] = 2x[n] + 4x[n - 1] - 3x[n - 2] + 3x[n - 3] - 4x[n - 4] - 2x[n - 5]$$