

Exercises Week 12

DSP

1. Implement the following system in **Direct-Form II** structure and in a **series** structure:

$$H(z) = \frac{1 - 2z^{-1} + z^{-2}}{1 + 2z^{-1} + z^{-2}}$$

2. Find the system function $H(z)$ for the following system. (*Hint: name the “output” signal of the lower part as $a[n]$, and write separately the relations for $y[n]$ and $a[n]$; then solve the resulting system*)

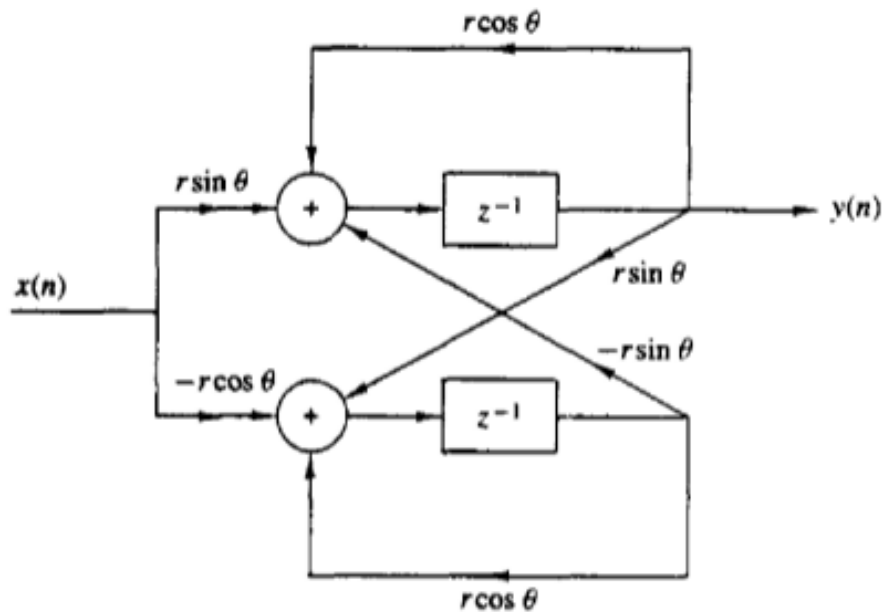


Figure 1: System implementation