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So far our treatment of DSP has focused primarily on the analysis of discrete-time systems. Now we finally have the analytical tools to begin to design discrete-time systems. All LTI systems can be thought of as filters, so, at least for LTI systems, to design filters.

Design of Digital Filters Chapter 9 Analysis and Design of Digital Filter. 9-1 Introduction. What designs have we done in this course? What do we mean by filters here? What do we mean by filters design? Given specifications (requirements) $\Rightarrow H(z)$

Let's see how we can implement a digital filter (processor) if its $H(z)$ is given? 9-2 Structures of Digital Processors. 1. Chapter 9 Analysis and Design of Digital Filter Digital. As with most analog filters, the Chebyshev may be converted to a digital (discrete-time) recursive form via the bilinear transform. However, as digital filters have a finite bandwidth, the response shape of the transformed Chebyshev is warped. Alternatively, the Matched Z-transform method may be used, which does not warp the response.

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Lattice !TF k 3 k 3 k 2 k
 2 k 1 k 1 A 3(z) A 2(z) A
 1(z) B 3(z) B 2(z) B 1(z)
 $x[n] y [n] z z 1 z1$ We
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