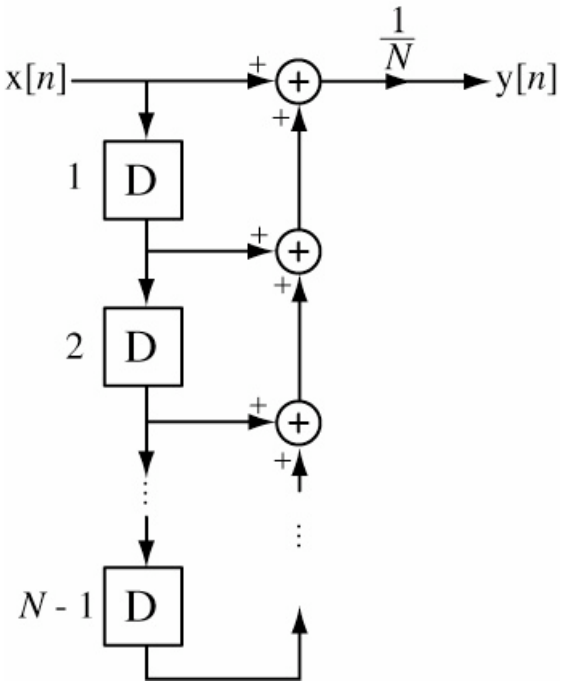
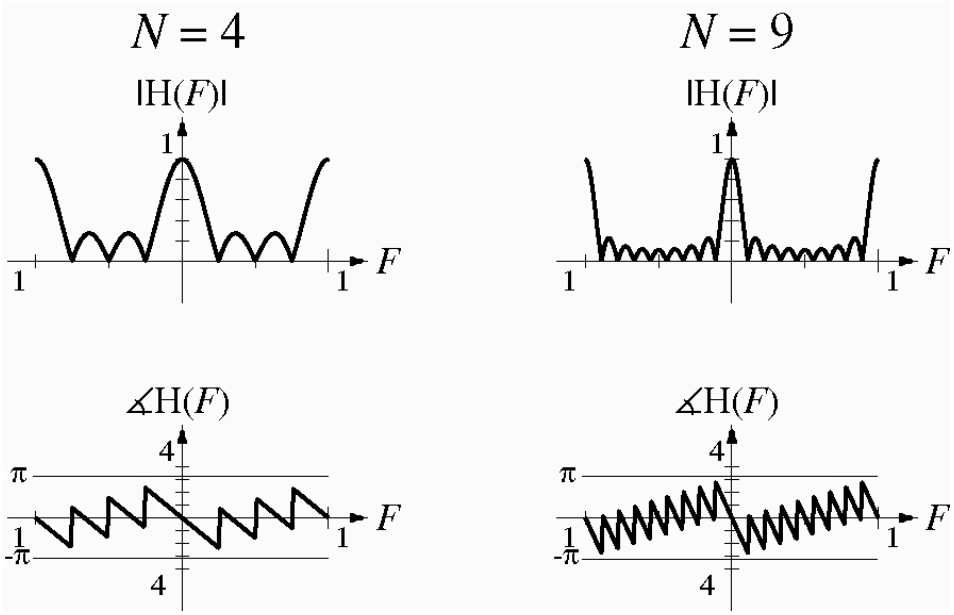
Discrete-Time Filters

Moving-Average Filter



$$\mathrm{H}\left(F\right)=\frac{e^{-j\pi\left(N-1\right)F}}{N}\frac{\sin\left(\pi NF\right)}{\sin\left(\pi F\right)}=e^{-j\pi\left(N-1\right)F}\,\mathrm{drcl}\left(F,N\right)$$



$$\mathrm{h}\left[n\right]=\left(\mathrm{u}\left[n\right]-\mathrm{u}\left[n-N\right]\right)/N$$

Always Stable