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**EXERCISE 7.6:** In Chapter 6, we saw that the frequency response for a real impulse response must be conjugate symmetric. Since the frequency response function is a DTFT, it must also be true that the DTFT of a real signal  $x[n]$  is conjugate symmetric. Show that if  $x[n]$  is real,  $X(e^{-j\hat{\omega}}) = X^*(e^{j\hat{\omega}})$ .

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