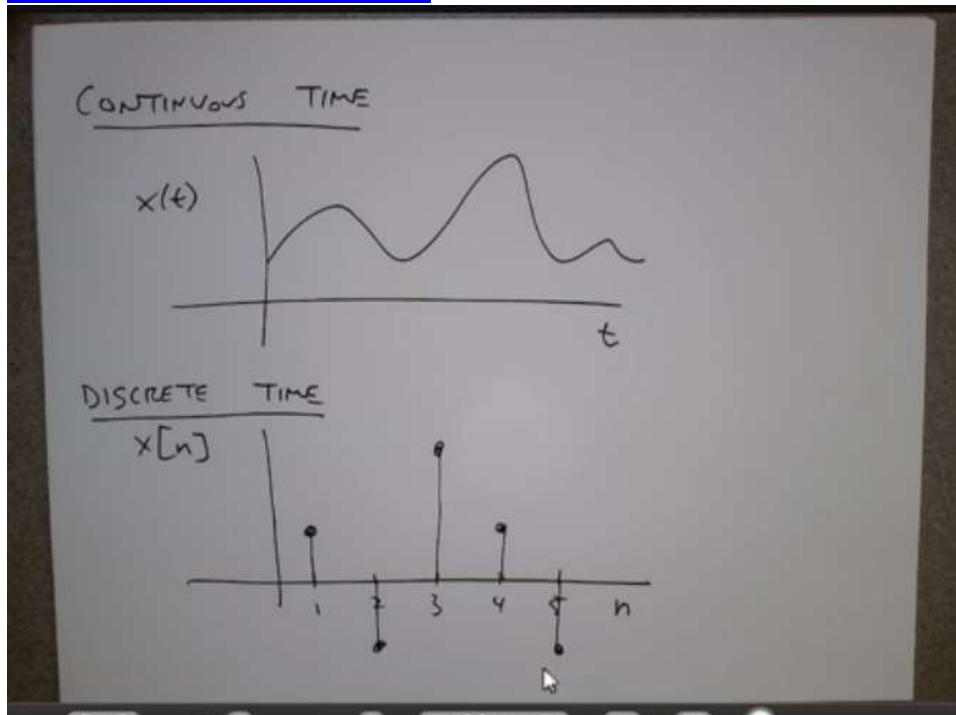


DSP Lecture 1: Signal

Tuesday, July 13, 2021

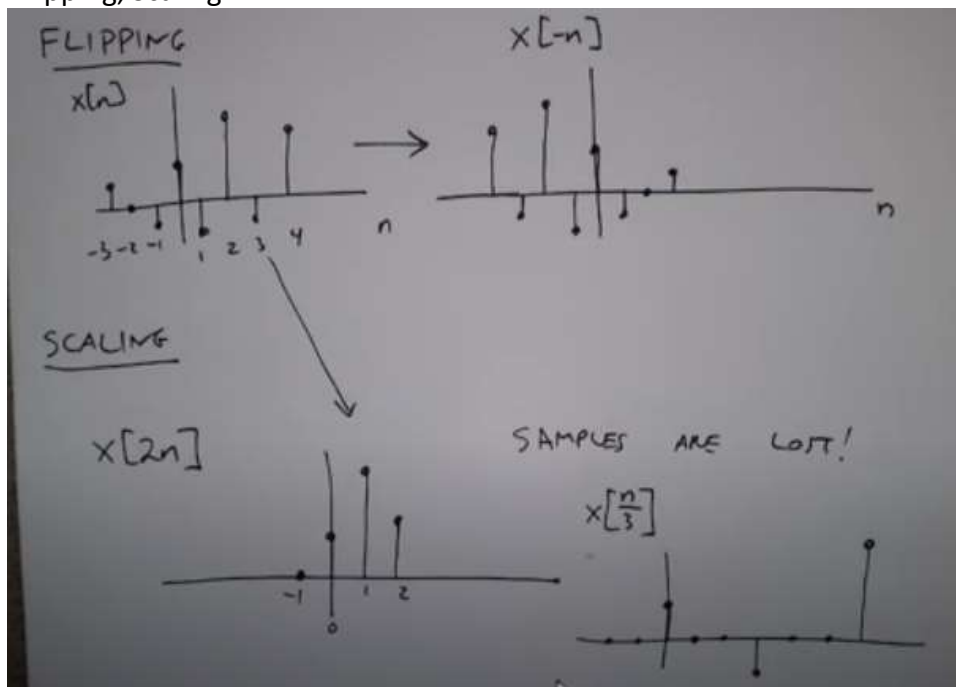
3:16 PM

[DSP Lecture 1: Signals - YouTube](#)

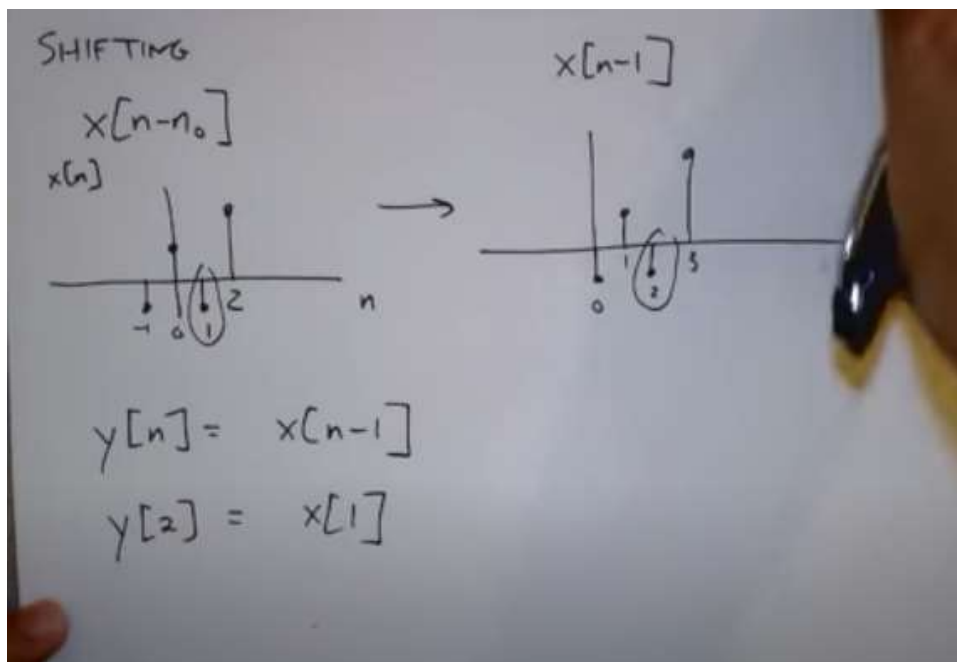


-
Passing bits

-
Flipping, Scaling

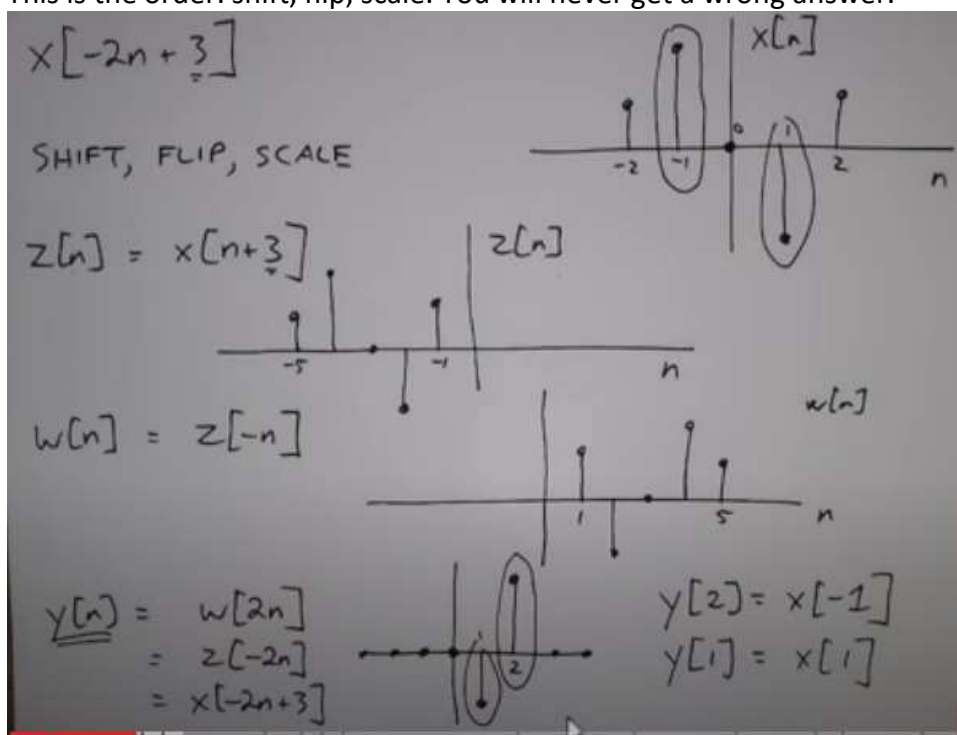


-
Shifting



Combining transformations; order of operations

This is the order: shift, flip, scale. You will never get a wrong answer.



Signal properties

Even: $x[n] = x[-n]$

Odd: $x[n] = -x[-n]$

Every signal has even and odd parts.

EVEN: $x[n] = x[-n]$



ODD $x[n] = -x[-n]$

$$x[0] = -x[0] = 0$$



EVERY SIGNAL HAS EVEN AND ODD PARTS

$$Ev(x[n]) = \frac{1}{2} (x[n] + x[-n])$$

$$Od(x[n]) = \frac{1}{2} (x[n] - x[-n])$$