AL- MUSTAQBAL UNIVERSITY COLLEGE
DEPARTMENT OF BIOMEDICAL ENGINEERING

Signals and Systems for BME

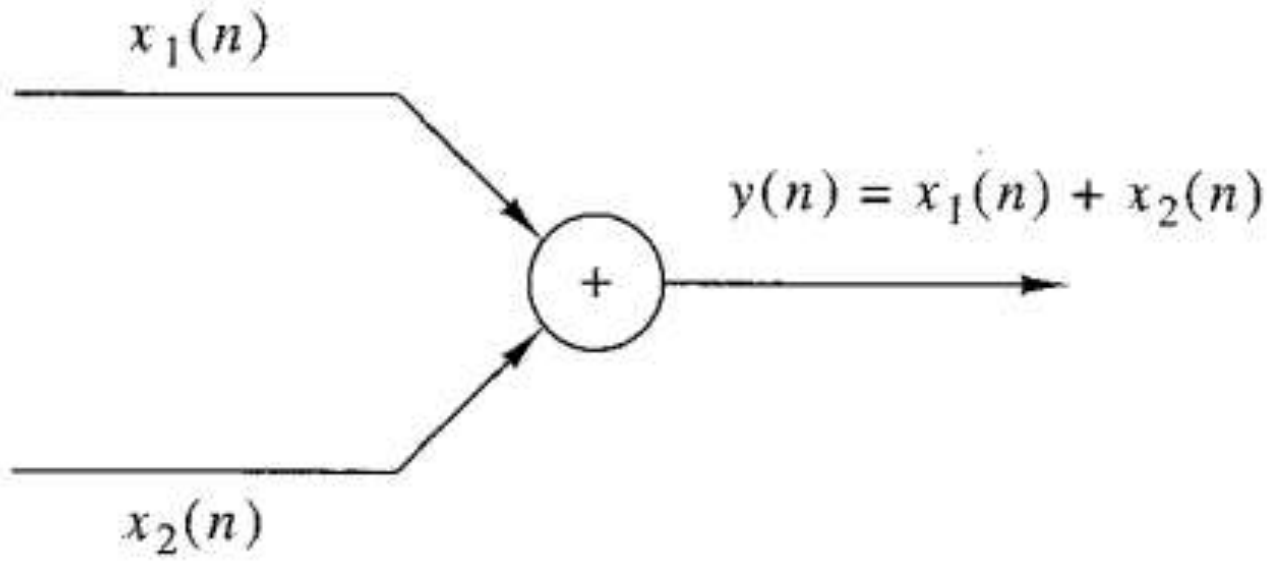
BME 322

Lecture 7

- Block Diagram Representation -

Dr. Zaidoon AL-Shammari
Lecturer / Researcher
zaidoon.waleed@mustaqbal-college.edu.iq

An adder

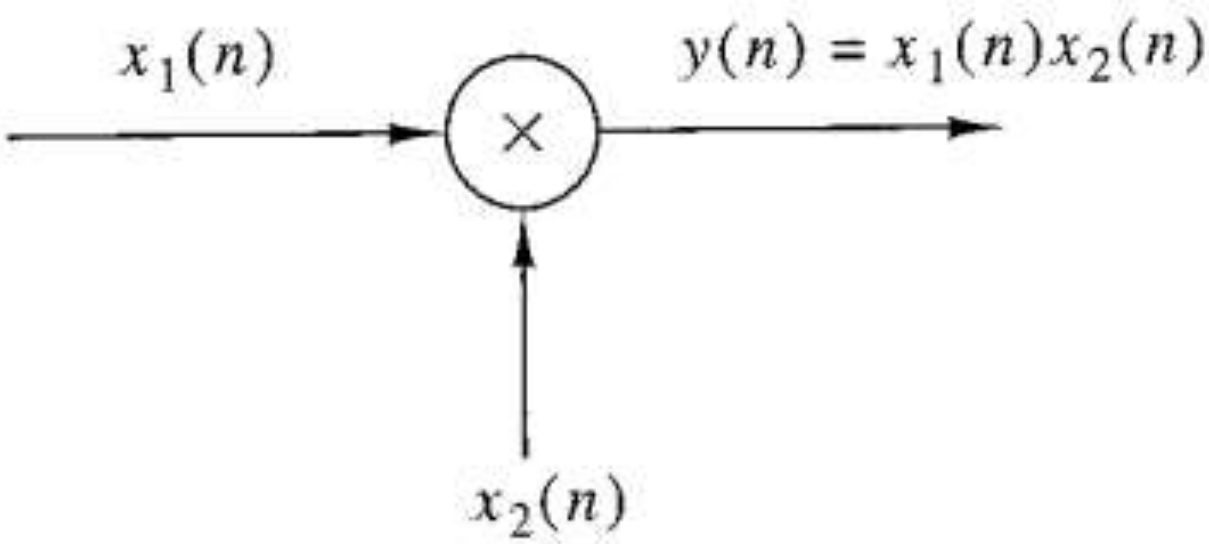


Graphical representation of an adder

Constant multiplier

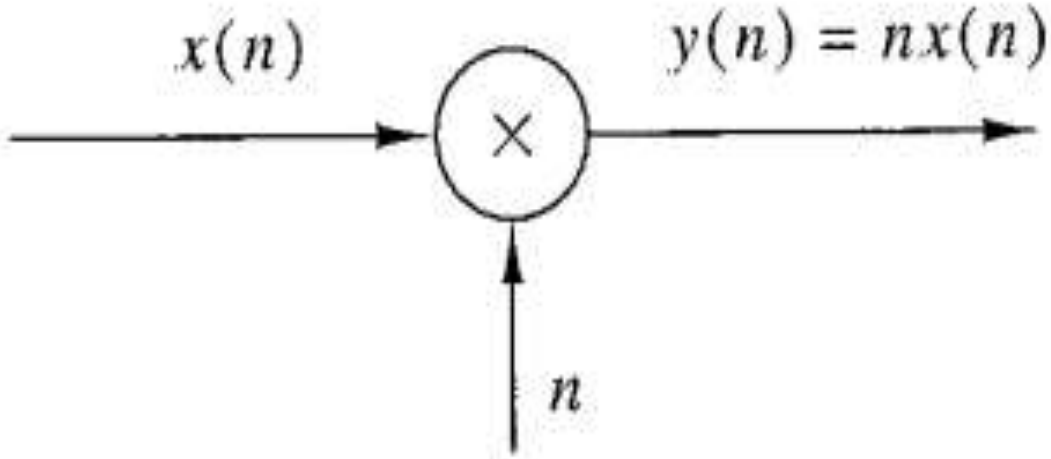
Graphical representation of a constant multiplier

Signal multiplier



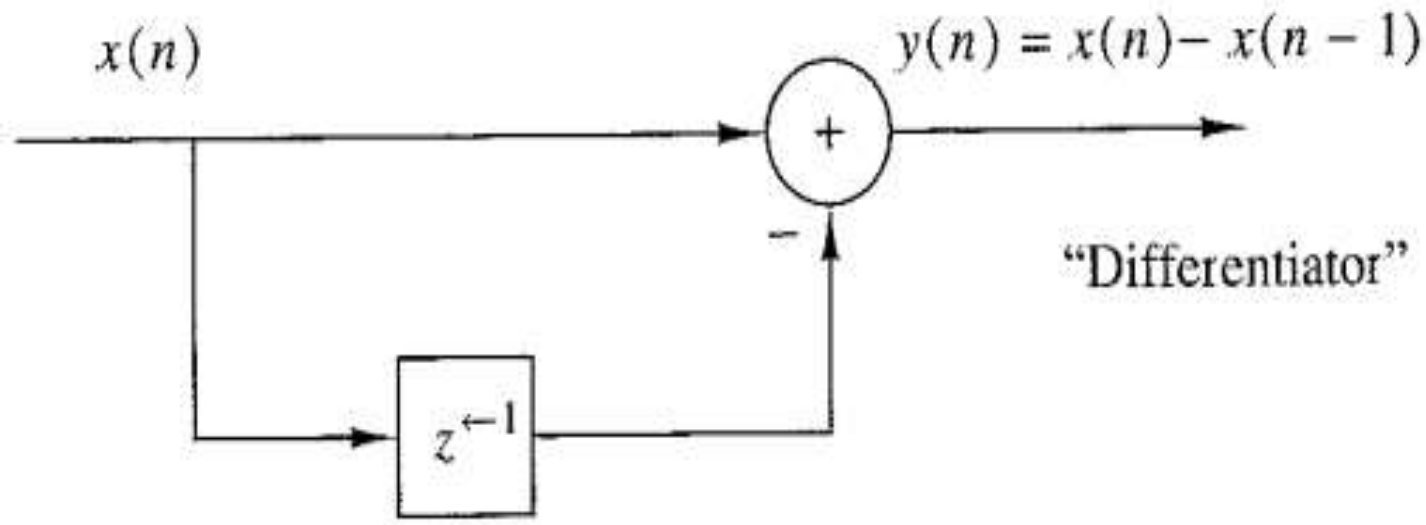
Graphical representation of a signal multiplier

Time multiplier



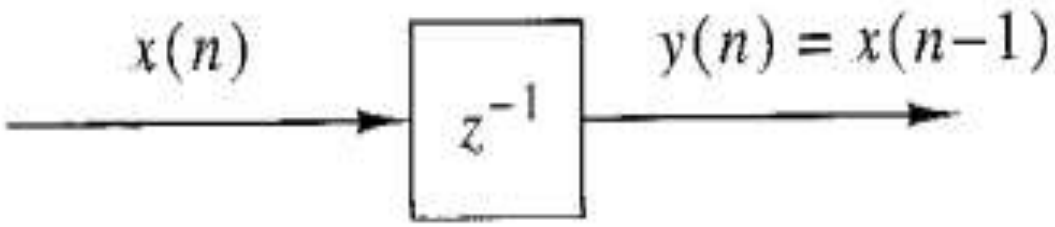
Graphical representation of a time multiplier

Differentiator



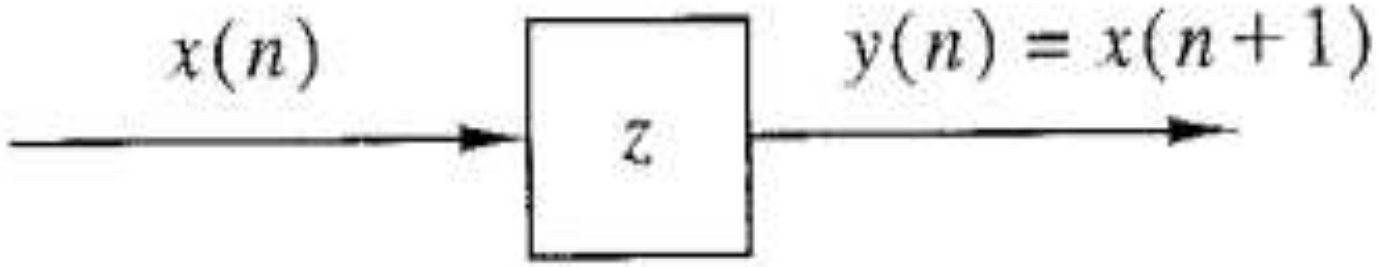
Graphical representation of a differentiator

A unit delay element



Graphical representation of the unit delay element

A unit advance element

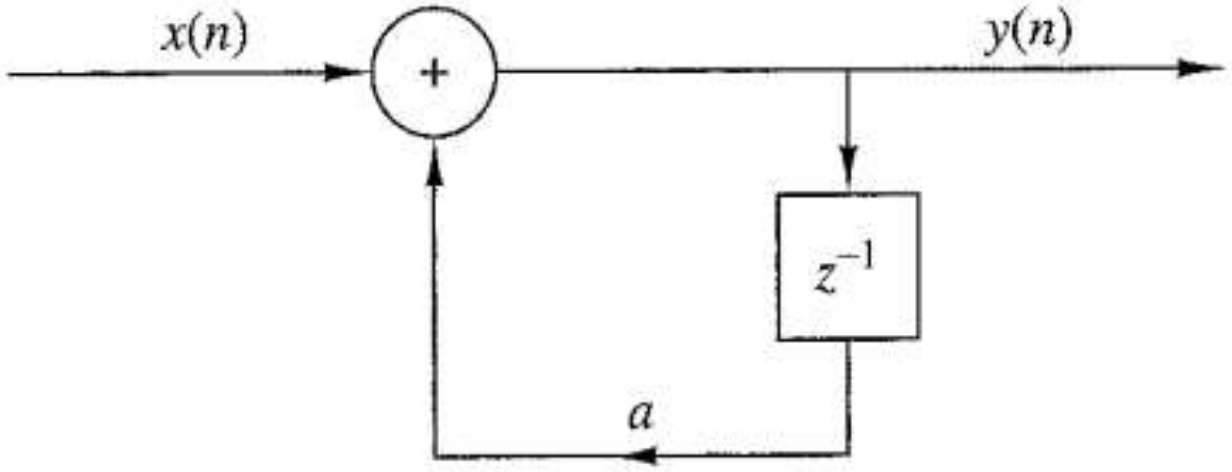


Graphical representation of the unit advance element

Example

Sketch the block diagram representation of the discrete time system described by the input-output relation.

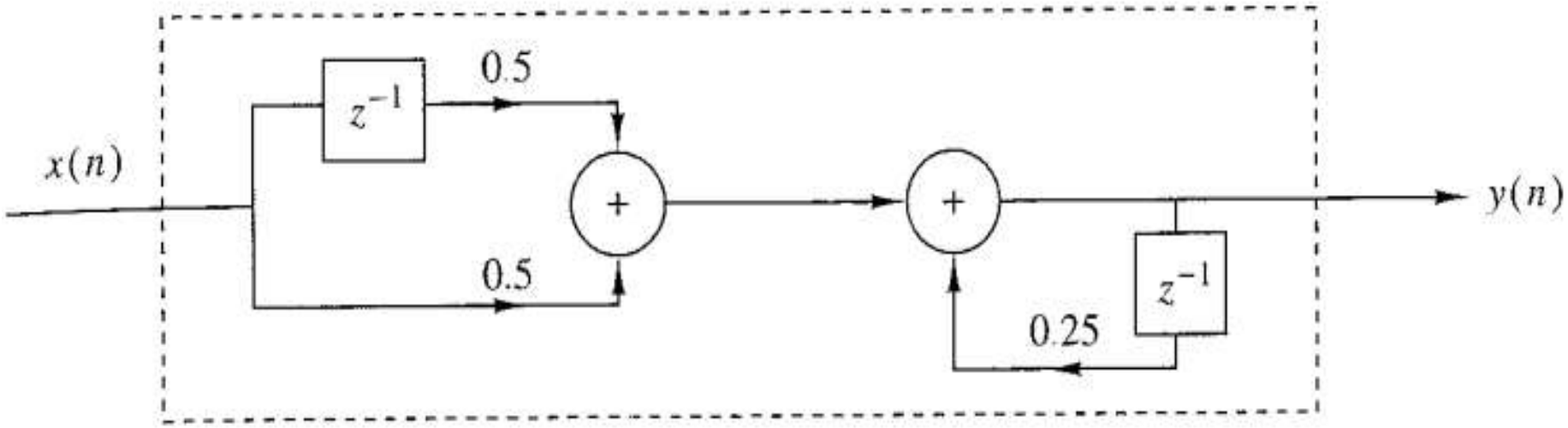
$$y(n) = ay(n-1) + x(n)$$



Example

Sketch the block diagram representation of the discrete time system described by the input-output relation.

$$y(n) = \frac{1}{4}y(n-1) + \frac{1}{2}x(n) + \frac{1}{2}x(n-1)$$



Example

Sketch the block diagram representation of the discrete time system described by the input-output relation.

$$y(n) = \frac{1}{4}y(n-1) + \frac{1}{2}[x(n) + x(n-1)]$$