Fall 2018 - Quiz 2 ECE 301: Signals and Systems

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Problem 1

The output at time n is obtained by accumulating the values of the input from n-5 to n+5.

- a What is the impulse response?
- b What is y[n] when x[n] = u[n] u[n-4], where u[n] indicates unit step.
- c Is this system
 - i Causal?
 - ii Memoryless?
 - iii Stable?

Problem 2

A discrete LTI system with input $x_1[n]$ (shown in 1(a)) produces the output $y_1[n]$ (shown in 1(b)). Find the output produced by this system for the input $x_2[n]$ (shown in 1(c))



Figure 1