## **EXERCISE 5.1:** Determine the output of a *centralized running averager*

$$y[n] = \frac{1}{3}(x[n+1] + x[n] + x[n-1])$$

for the input in Fig. 5-2(a). Is this filter causal or noncausal? What is the support of the output for this input? How would the plot of the output compare to Fig. 5-2(b)?

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