



Example 9-1: Shifting the Unit Step

In order to get a different starting time, we can define a shifted unit step, e.g., $x(t) = u(t - 7)$. Expanding the definition of the unit step, we have

$$x(t) = u(t - 7) = \begin{cases} 1 & (t - 7) \geq 0 \\ 0 & (t - 7) < 0 \end{cases}$$

so a plot of $x(t)$ is zero for $t < 7$, and it makes its transition from zero to one at $t = 7$. ■