Example (continued)

$$\dot{y} = -ay + u$$

$$H(s) = \frac{1}{s+a}$$

Now we can fund the impulse response $h(t)$ by taking the inverse Laplace transform — from tables,

$$h(t) = \begin{cases} e^{-at}, & t \geq 0 \\ 0, & t < 0 \end{cases}$$