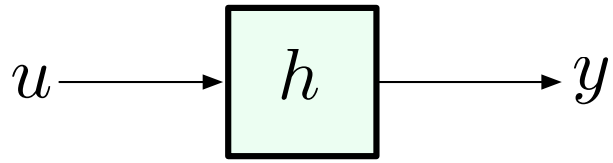
Determining the Impulse Response



$$u(t) = e^{st},\ t \geq 0 \qquad \xrightarrow{x(0)=0;\ \text{LTI system}} \qquad y(t) = e^{st}H(s)$$

Back to our two questions:

1. If we know h, how can we find y for a given u?
2. If we don't know h, how can we determine it?

We have answered Question 1. Now let's turn to Question 2.

One idea: inject the input $u(t) = e^{st}$, determine $y(t)$, compute

$$H(s) = \frac{y(t)}{u(t)};$$

repeat for all s of interest. Q: Is this a good idea?