

The unit ramp function $H(t)$ is defined by

$$H(t) = \begin{cases} 0 & t < 0 \\ t & t > 0 \end{cases}$$

- (a) Determine the Laplace transform of $H(t)$
- (b) Solve the ODE $y'' + y = H(t - 1) \quad y(0) = 0 \quad y'(0) = 0$ using Laplace transforms.