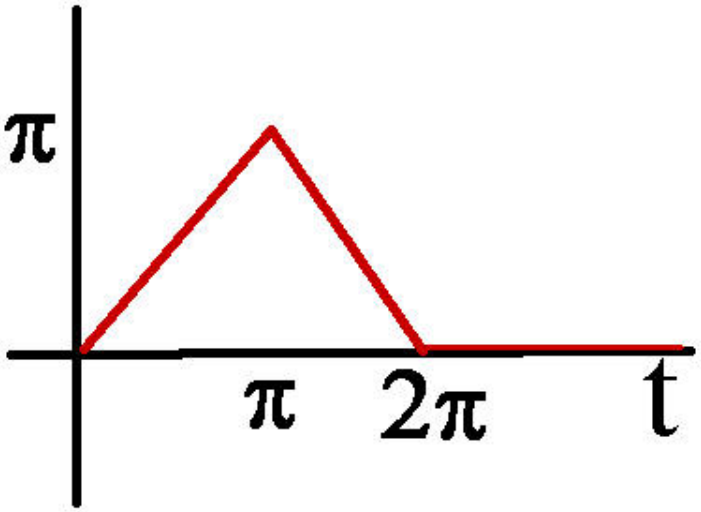
$$\frac{d^2y}{dt^2} + y = f(t) \quad \text{where } y(0) = 0 \text{ and } y'(0) = 0$$

$$f(t) = t(1 - \mathcal{U}(t - \pi)) - (t - 2\pi)(\mathcal{U}(t - \pi) - \mathcal{U}(t - 2\pi))$$



$$y = t - \sin t - 2\mathcal{U}(t-\pi)(t-\pi+\sin t) + \mathcal{U}(t-2\pi)(t-2\pi-\sin t)$$