Example 3-4

Q $G(z) = ?$

$$G(s) = \frac{1 - e^{-Ts}}{s} \quad \frac{1}{s(s+1)}$$

Solution

$$G(z) = Z[G(s)] = (1 - z^{-1}) Z\left[\frac{1}{s^2(s+1)}\right]$$

$$= \frac{[(T - 1 + e^{-T}) + (1 - e^{-T} - Te^{-T}) z^{-1}] z^{-1}}{(1 - z^{-1})(1 - e^{-aT} z^{-1})}$$