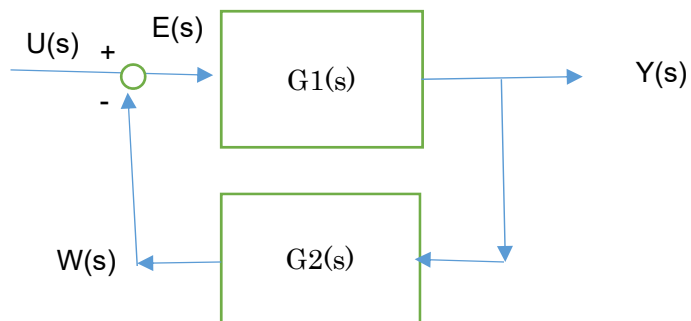


## Feedback control



$$Y(s) := G_1(s) \cdot E(s)$$

$$E(s) := U(s) - W(s)$$

$$W(s) := G_2(s) \cdot Y(s)$$

$$Y(s) = G_1(s) \cdot E(s) = G_1(s) \cdot (U(s) - W(s)) = G_1(s) \cdot (U(s) - G_2(s) \cdot Y(s))$$

$$Y(s) = G_1(s) \cdot (U(s) - G_2(s) \cdot Y(s))$$

$$Y(s) \cdot (1 + G_1(s) \cdot G_2(s)) = G_1(s) \cdot U(s)$$

$$\frac{Y(s)}{U(s)} = \frac{G_1(s)}{1 + G_1(s) \cdot G_2(s)}$$

How to solve by Mathcad ?

Above is solved by me and not automatically.