Test 01

> Course: Embedded control system
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> Duration: 15 min

Exercice

A laser printer uses a laser beam to print copy rapidly for a computer. The laser is positioned by a control input $r(t)$, so that we have:

$$Y(s) = \frac{4(s+50)}{s^2+30s+200}R(s)$$

The input $r(t)$ represents the desired position of the laser beam.

- (a) If $r(t)$ is a unit step input, find the output $y(t)$.
- (b) What is the final value of $y(t)$?
- (c) Utilize the Mason formula to construct the SFG of this system.
- (d) Deduce the diagram of the blocks.