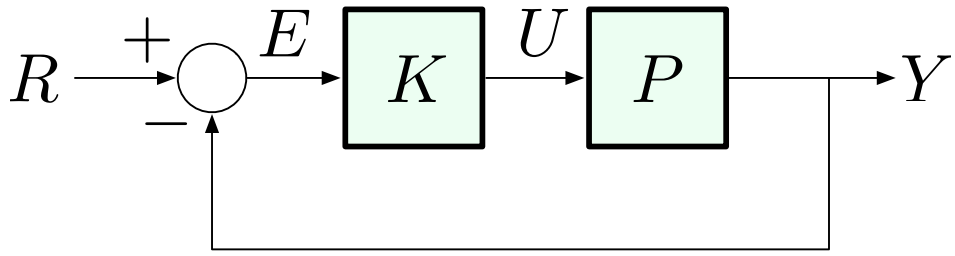
System Type: Examples



System type is the degree of the lowest-degree polynomial that cannot be tracked *in feedback* with zero steady-state error.

- Type 0: no pole at the origin. This is what we had without the I-gain: nonzero SS error to constant references.
- Type 1: a single pole at the origin. This is what we get with I-gain: can track (respectively, reject) constant references (respectively, disturbances) with zero error.
  - can check that we have a nonzero (but finite) error when tracking ramp references
- Type 2: a double pole at the origin. Can track ramp references without error, but not $t^2, t^3, \ldots$