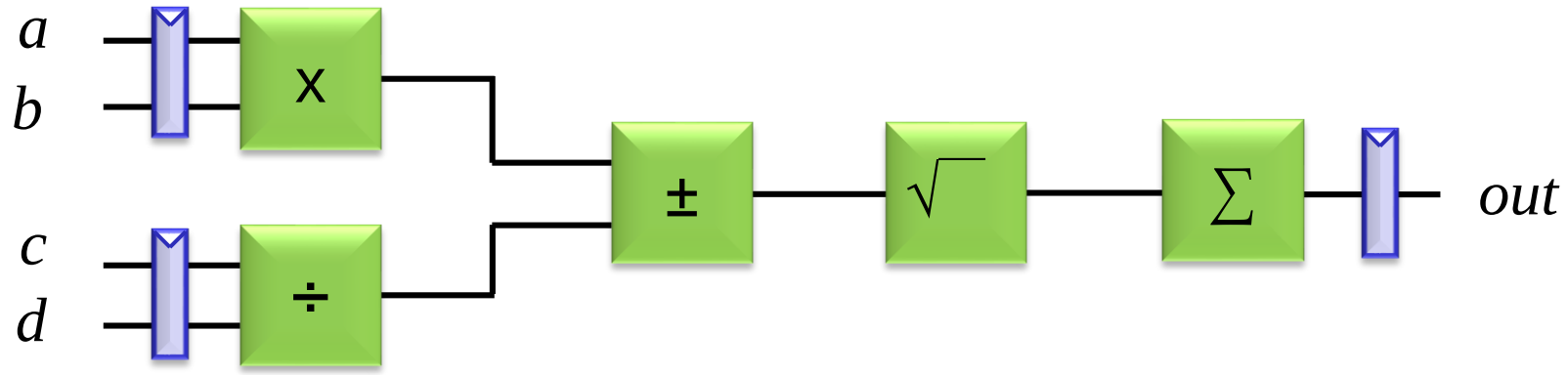
PIPELINING

Register → Comb. Logic → Register

- All paths in digital systems consist of an input register, (optionally) followed by combinational logic, followed by an output register

$$out = \text{summation}\{\text{sqrt}[(a \times b) \pm (c / d)]\}$$



Adding Pipeline Stages

- Adding registers into combinational logic breaking the longest paths into shorter ones has the potential to permit the calculation of more operations per unit time—known as "pipelining"

$$out = \text{summation}\{\text{sqrt}[(a \times b) \pm (c / d)]\}$$