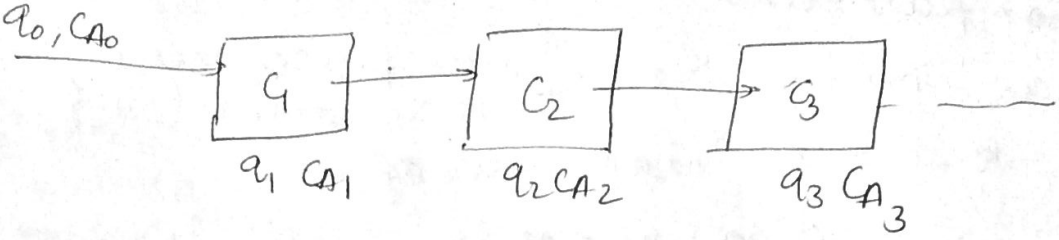
For tanks in Series



for the i^{th} tank

using

$$In - Out + Gen = Acc$$

$$q_{i-1} C_{Ai-1} - q_i C_{Ai} - k C_{Ai} V = \frac{V dC_{Ai}}{dt}$$

V = vol^m of tank

Comparison

- Train has bidirectional movement but tanks have single direction movement compartment
- trains also has inflow & outflow outside the system but reactor has out movement b/w compartments
- Both ~~are~~ have relatively same equations for mass balance.