

Seawater with a concentration of 8000 g/m^3 is pumped into a well-mixed tank at a rate of $0.6 \text{ m}^3/\text{hr}$. The salt solution leaves the tank at a rate of $0.6 \text{ m}^3/\text{hr}$. Because of faulty design work, water is evaporating from the tank at a rate of $0.025 \text{ m}^3/\text{hr}$.

- a) If the tank originally contains 1 m^3 of the inlet solution, how long after the outlet pump is turned on will the tank run dry?
- b) Use numerical methods to determine the salt concentration in the tank as a function of time.

Deliverables

Your report should include the description of the problem, how you set up the problem, assumptions, method of solution, the Matlab code that you used, the results, all relevant plots, discussion and potential weaknesses in your solution method. Hand in your work in a zip file containing all relevant files.