

Using the code you developed for Work Session 2, solve the following problems.

Transient Problem

1. Add to the code you developed for Work Session 2 by allowing it to work for the transient case.
2. Add to the transient code by developing code that turns wells on and off at different times.

Steady State Problem

1. Farmer Ben buys a tract of land adjacent to Farmer Joe's. Farmer Joe has an existing well that pumps at a rate of 2000 m/day. Farmer Ben needs to pump at the same daily rate. Where can he place his well given the following constraints? (Try to list all possible locations.)
 - (a) The well must be on his portion of land; Ben owns columns 16-30.
 - (b) The aquifer only reaches a depth of 390.
 - (c) Farmer Joe acquires desired amount of water per day.
 - (d) The constant head boundaries are both rivers; wells can not be drilled within one cell of the boundary because of the likelihood of a well collapse.
2. Farmer Ben's contractor dug a well at a location (row 8, column 23) without Ben's knowledge. What's the maximum amount Ben can pump from that well?
3. What if the dataset is too large for guess and check? Write code that does the work for you in problems 1 and 2.