**PGE392K In Class Problem**

**October 6, 2020**

1. Write by hand mass balance equations for each grid block in a Nx=3x Ny=3 2D reservoir. Assume heterogeneous properties (e.g. interblock transmissibilities). Then, using your mass balance equations, form your T, B, and Q vector by hand. The boundary conditions are “no-flow” on the bottom (y=0), left (x=0), and top boundary (y=W), but constant pressure (PB) at the right (x=L) boundary,
2. Write pseudocode by hand to create the T,B, and Q vectors for a homogenous, isotropic, 2D system with Nx x Ny grids. Make your code flexible for any boundary conditions on each of the 4 faces. Hint: You only need one loop (no nested for loop). Since there four faces and four boundary conditions, you will need to treat those four (and only those four) cases special.
3. Begin to adapt your 1D code for a 2D system.