Assignment 5

For 2D and 3D implement the 4 geometry-specific routines outlined in the notes. Use previously implemented data structures to gather all input data to each routine.

Then implement the following looping structure:

for $e = 1, \ldots, n_{el}$

* gather element nodes $\{x_a^e\}$

for $i = 1, \ldots, n_{gpt}^s$ ← Test for different s values

* Compute $\underset{\sim}{x}^e$, $\left[\frac{\partial x_i}{\partial \xi_j}\right]$
* Compute integral scaling
* Compute $\underset{\sim}{n}$
* Compute $\left[\frac{\partial N_a^e}{\partial x}, \frac{\partial N_a^e}{\partial y}\right]$

Test the looping structure to make its producing valid results