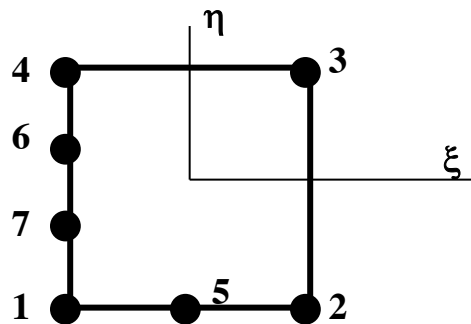


CIVL.666, MANE.666
FUNDAMENTALS OF FINITE ELEMENTS
HOMEWORK 7
Due: November 1, 2019

- (to be graded) Derive a set of shape functions for the variable node per side element that satisfies the C^0 interelement continuity requirements (condition C2). Also demonstrate the sum of the shape functions equals one (part of condition C3 with the given rules where the unknowns in the formulation are to be the values of the function at the node points). Note that the element is a bi-unit square:



- Determine the shape functions for nodes 2, 8, 12 and 15 of the quartic triangle shown below. Hint - the coordinates of node 15 are (0.25, 0.25, 0.5)

