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% shapeUnion : returns the union of any number of shapes,
%               i.e. max(shape1, shape2, ..., etc)
%
% Output parameters:
%   finalShape = the union of shape1 with other shapes
%
% Input parameters:
%   shape1 = any shape represented by an mxn matrix
%   varargin = any number of shapes (or zero), each represented by an mxn matrix

function finalShape = shapeUnion(shape1, varargin)

finalShape = shape1;

for i = 1 : size(varargin, 2)
    finalShape = min(finalShape, varargin{i});
end

```