

**ISC 5935 - Computational Tools for Finite Elements**

Homework#8

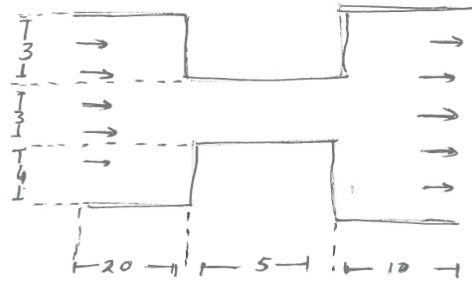
Assigned 29 October 2014, Due 5 November 2014

[http://people.sc.fsu.edu/jburkardt/classes/fem\\_2014/homework8.pdf](http://people.sc.fsu.edu/jburkardt/classes/fem_2014/homework8.pdf)

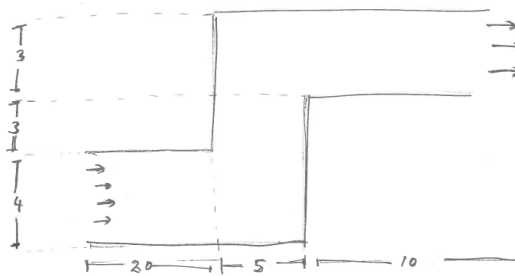
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1. Use gmsh to render and mesh the following two crudely sketched regions. Use dolfin-convert to convert the meshes to .xml format.

a) Region 1:



b) Region 2:



**Turn in:** The .geo file.

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2. Use Fenics to solve the potential flow problem over each of regions generated in Problem 1, using a flow potential  $\phi(x, y) = 1.0$  on the left and  $\phi(x, y) = 10.0$  on the right.

**Turn in:** Paraview plots of the equipotential lines and of the velocity fields for each region.