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High Performance Computing 2

SoSe 2017

Sheet 4

Introduction

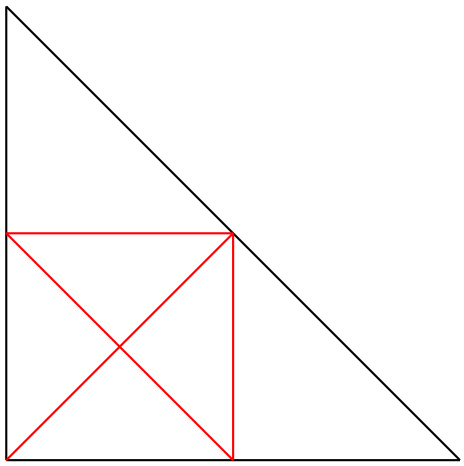
In this session we will have a quick look on refinement strategies. One method, how a triangle can be divided in four elements was already done on Sheet 2. You are allowed to work with matlab (at first) and afterwards to implement and adapt the code in C.

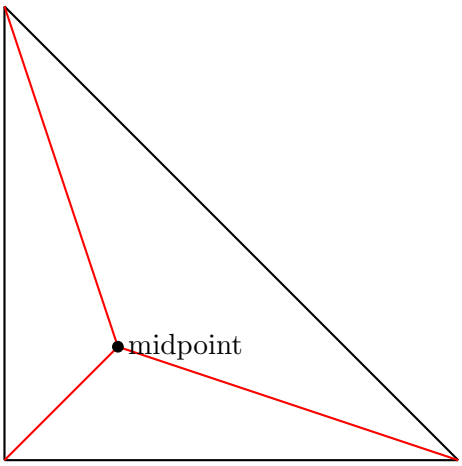
Exercise

1) Download the material from the homepage. Run the makefile. Try to understand the demo file.

2) Try to understand, how the mesh is loaded and generated and how the refinement is realized and implemented.

3) Try to implement the following two refinement strategies.





4) Take care of the ordering of the elements.

5) Try to discuss the advantages and disadvantages of the above given refinement strategies.

6) You should adapt the implementation given in demo.c.