Difficult cases for `spline2mesh`
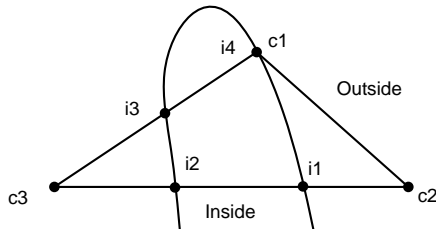
Jens Olav Nygaard

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SINTEF

1. Difficult cases for `spline2mesh`
   - ...

Example 1

- If c_1 is classified as "inside", and c_2 and c_3 as outside, it is assumed that the trimming curve intersects edge $e_{3,1}$ (i_3 or i_4 will be found) and edge $e_{1,2}$, (i_4 will be found) causing all of triangle $t_{1,2,3}$ to be kept.

Possible solutions:

- More extensive testing of even more possible configurations.
- Making sure the situation does not arise
  - Splitting very long triangles
 - Checking for more than three intersections

Example 2
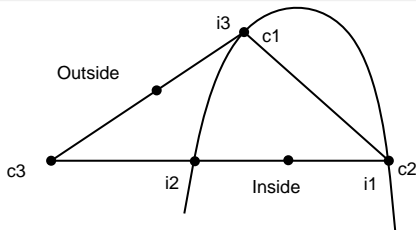
- If all of c_1, c_2 and c_3 are classified as "outside", it is assumed that the whole triangle is outside. Likewise, if all corners are inside (swap the role of "outside" and "inside" in the figure), the triangle is assumed to be fully inside.

Possible solutions:

- More extensive testing of even more possible configurations.
- Making sure the situation does not arise
  - Splitting very long triangles
  - Checking for edge intersections even when the end points are on the same side of the trimming curve.

Example 3
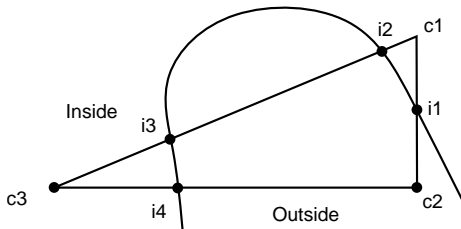
- If c_1 and c_3 are "inside", and c_2 is "outside", it is assumed that there is a trimming curve cutting (once) throught he triangle across edges $e_{1,2}$ and $e_{2,3}$, and intersections i_1 and i_4 are found. The triangle is then (wrongly) split between these two points.

Possible solutions:

- More extensive testing of even more possible configurations.
- Making sure the situation does not arise
  - Splitting until exactly two intersections occur