

The Typ2 mesh format

April 5, 2019

1 Description of typ2 format

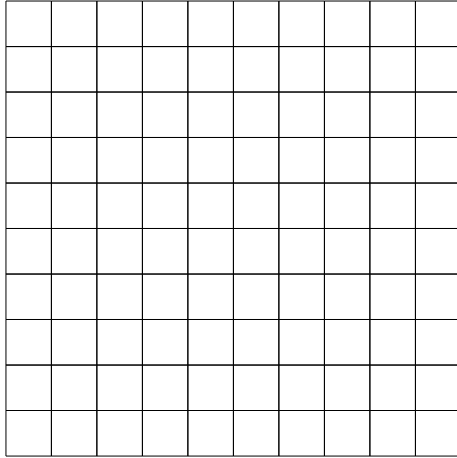
The typ2 mesh format was designed for the FVCA5 benchmark [1]. It describes a 2D mesh with generic polygonal cells in a txt file through the following elements:

```
Vertices
<nb Nv of vertices in the mesh>
<coordinates of vertex 1>
<coordinates of vertex 2>
.
.
.
<coordinates of vertex Nv>
cells
<nb Nc of cells in the mesh>
<nb of vertices of cell 1, followed by the ids of the vertices>
<nb of vertices of cell 2, followed by the ids of the vertices>
.
.
.
<nb of vertices of cell Nc, followed by the ids of the vertices>
```

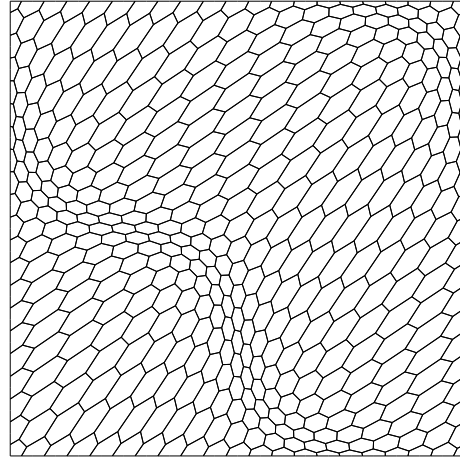
Note: for each cell, the vertices must be listed in counter-clockwise order.

2 Examples

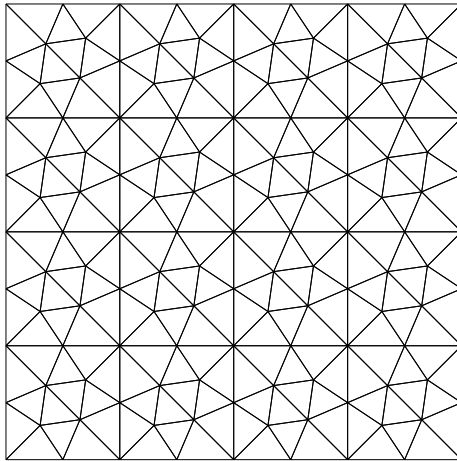
Here are some examples of meshes in the directory.



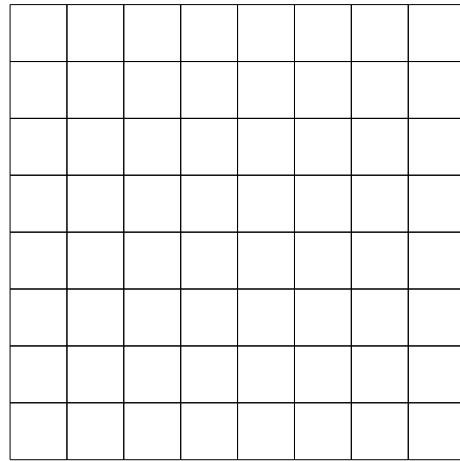
Member of the `cartXxX.typ2` family



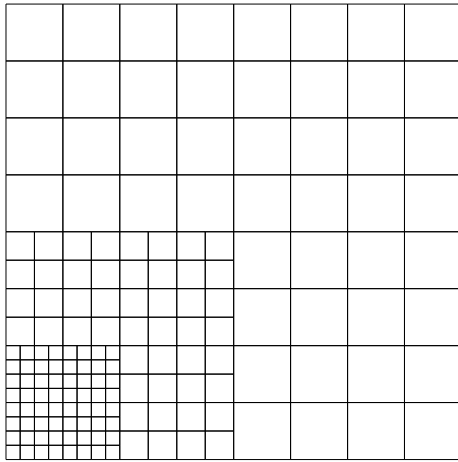
Member of the `hexa1_X.typ2` family



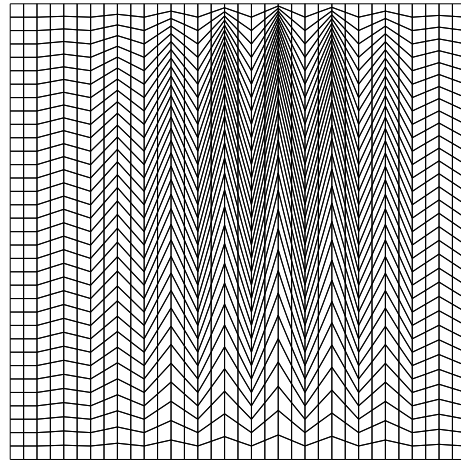
Member of the `mesh1_X.typ2` family



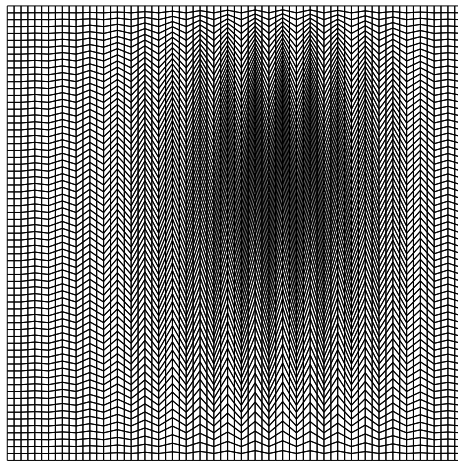
Member of the `mesh2_X.typ2` family



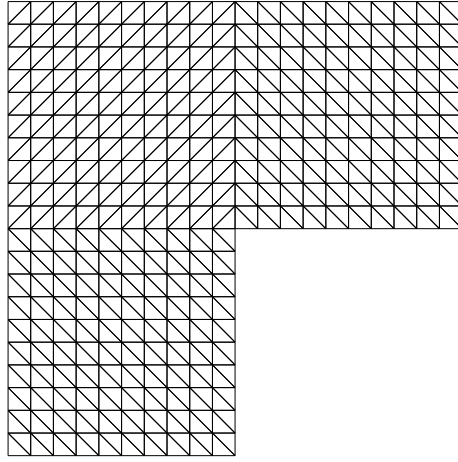
Member of the `mesh3.X.typ2` family



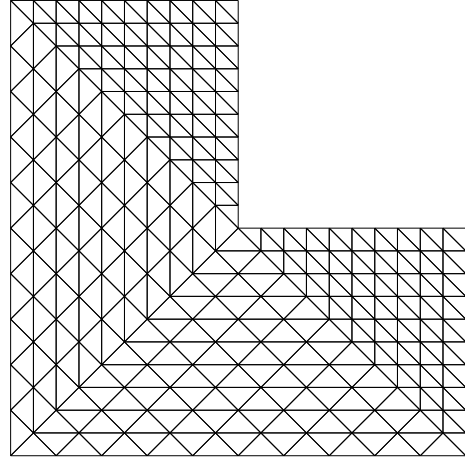
Member of the `mesh4.1.X.typ2` family



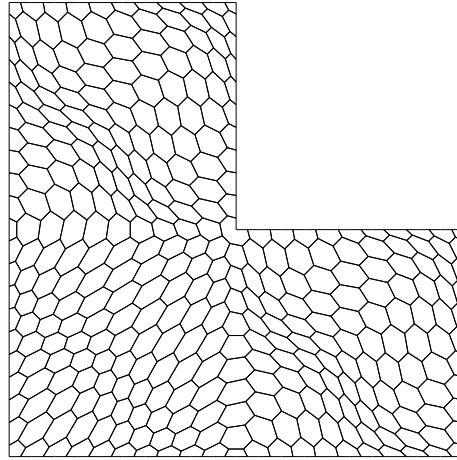
Member of the `mesh4.2.X.typ2` family



Member of the `Lshape_tri1.X.typ2` family



Member of the `Lshape_triX.typ2` family



Member of the `Lshape_hexaX.typ2` family

References

- [1] R. Herbin, F. Hubert, *Benchmark on discretization schemes for anisotropic diffusion problems on general grids*, in *Finite Volumes for Complex Applications V* (ISTE, London, 2008), pp. 659–692. URL: <http://www.i2m.univ-amu.fr/fvca5/benchmark/Meshes/index.html>