

# ULTRA-QUICK TUTORIAL FOR GENERALIZED PATTERN MACROS

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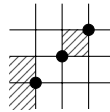
ABSTRACT. This is meant as a very quick introduction to the use of macros for drawing some types of generalized patterns such as mesh patterns, marked mesh pattern etc.

## 1. MESH PATTERNS

Mesh patterns were introduced by Brändén and Claesson (2011). The following macro is used to draw these.

```
\mpattern{scale=1}{3}{1/1,2/2,3/3}{0/0,0/1,2/2}
```

The first variable controls the size of the figure produced, the second variable is the total number of dots, the third variable is a list of the dots, in the form location/height, and finally we have a list of shaded boxes. The convention is to use the coordinates of the lower left corner of each box. Note that the left-most box-in the bottom-most row is then labelled 0/0.

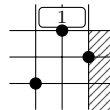


## 2. MARKED MESH PATTERNS

Marked mesh patterns were introduced by Úlfarsson (2011). The following macro is used to draw these.

```
\mmpattern{scale=1}{3}{1/1,2/3,3/2}{3/0,3/1,3/2}{2/3/3/4/1}
```

Everything is the same as in the previous macro, except there is a new variable that specifies a region and a marking for it. This is done by giving the coordinates of the region in the form  $x/y/z/w$  where  $(x, y)$  are the coordinates of the south-west corner of the region and  $(z, w)$  are the coordinates of the north-east corner. This is followed by marking you want in the region.



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