Boolean Set Operations for the GDS II Octave / MATLAB Toolbox

Beginning with version 86 the GDS II toolbox provides a method 'poly_bool' in the gds_element class that performs Boolean set operations on GDS boundary elements. This function makes use of the Clipper library by Angus Johnson (www.angusj.com) or the General Polygon Clipper library (GPC) by Alan Murta (http://www.cs.man.ac.uk/~toby/gpc/). Either of these open source libraries can be used by compiling an appropriate mex function interface. The Clipper libary can be used in commercial and non-commercial settings and it is also faster than the GPC library. Clipper is, however, written in C++ and cannot be compiled with the LCC C compiler that is included with MATLAB on Windows 32 up to R2011b (?). When only LCC is available, the GPC library must be used instead of the Clipper library.

The mex interface function for one of the polygon algebra libraries must be compiled to make the functionality available to the GDS II toolbox. Change to either the Boolean/gpc or the Boolean/clipper directory and type

```
makemex
```

at the MATLAB prompt. The same works in Octave, but the shell script

```
./makemex-octave
```

can also be run to compile the mex functions. Only one of the mex functions should be compiled to make sure that MATLAB or Octave load the correct function.

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