Clipping polygons from GNU Octave*

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May 24, 2011

Abstract

Hello.

1 Overview

Hello again.

2 Installation

As several GNU Octave packages, `OctCLIP` installation consists in compiling the C++ kernel sources, link them against GNU Octave library to generate `*.oct` functions and copy this `*.oct` executables and other `*.m` functions into a working directory.

The automatic procedure can be easily done by running the command:

```
octave:1> pkg install octclip-x.x.x.tar.gz
```

where `x.x.x` is the version number.

After that, the functions and documentation are installed in your machine and you are ready for use the package.

3 GNU Octave functions

Two types of functions are programmed for GNU Octave: one `*.oct` function and one `*.m` function.

3.1 `*.oct` function

This function are linked with the C code that actually make the computations. You can use it, but is no recommended because the input arguments are more strict than `*.m` functions and don't check for some errors.

The function is:

- `_oc_polybool`: boolean operation between two polygons.

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3.2 `*.m` function

This function makes the computations by calling the `*.oct` function. You must call this function because you can use different number of input arguments and checking of input arguments is performed.

The function is the same as in section 3.1 (without the _ at the beginning of the name):

- `oc_polybool`: calls `_oc_polybool`.

3.3 Error handling

4 Examples

References

[1] Eaton, John W.; Bateman, David, and Hauberg, Søren; GNU Octave. A high-level interactive language for numerical computations; Edition 3 for Octave version 3.2.3; July 2007; Permanently updated at http://www.gnu.org/software/octave/docs.html.

[2] Greiner, Günter, and Hormann, Kai; *Efficient clipping of arbitrary polygons*; ACM Transactions on Graphics; Volume 17(2), April 1998; Pages 71–83. There is a web link with some example code at http://davis.wpi.edu/~matt/courses/clipping/.

[3] Kim, Dae Hyun, and Kim, Myoung-Jun; *An Extension of Polygon Clipping To Resolve Degenerate Cases*; Computer-Aided Design & Applications; Vol. 3; Numbers 1–4, 2006; Pages 447–456.