

MathRelatedSoftware

This page provides a simple list of software which provides (non-trivial) algorithms for numerical calculations, graph theory (including advanced graph layout), number theory or higher algebra in some form. Listing a software or project does not mean an endorsement or that the software has even been reviewed.

The list is currently limited to OSS (because of easier research, not because of bias against closed source software). There is no limit regarding programming languages, license or API design. Computer algebra systems (CAS) are included. Function graphing, charts and other visualization as well as very specialized topics like neural network, cryptography or high energy physics are currently not included. Maybe some will be added later, in separate sections.

Java libraries

[Mantissa](#) - linear algebra, least squares, curve fitting, ordinary differential equations integrators, polynomials, random numbers, basic statistical analysis, optimization

[HartMath](#)

[Colt](#) - Open Source Libraries for High Performance Scientific and Technical Computing in Java.

[JGraphT](#) - graph theory

<http://openjgraph.sourceforge.net/>

[Java Universal Network/Graph Framework](#) - graph theory, graph layout

[JScience.org](#)

[JPaul](#) - includes graph theory algorithms

<http://sourceforge.net/projects/math4j/> - somebody should tell this guy he's just reinventing the wheel

[IA Math](#) - interval arithmetic

C/C++

[ATLAS](#) - highly optimized BLAS library

Gnu Scientific Library (gsl?)

[Boost](#)

[gjrnd](#) - random number generators and tests

[pari/pari-gp](#)

[GiNAC](#)

[Goblin](#) - graph theory

<http://pigale.sourceforge.net/>

[Ipsolve](#) - mixed integer linear programming

GLPK - linear programming

Python

Numerical Python (URLs TBD)

Transcendentals

CAS, solvers, spreadsheets and similar stuff

GNU Octave

[SciLab](#)

[Maxima](#)

[Yacas](#)

R

<http://sourceforge.net/projects/jscl-meditor>

PSPP - statistical analysis

MathEclipse.org

Axiom