# **GLPK (GNU Linear Programming Kit)**



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## **Introduction to GLPK**

The GLPK ( $\underline{G}$ NU  $\underline{L}$ inear  $\underline{P}$ rogramming  $\underline{K}$ it) package is intended for solving large-scale linear programming (LP), mixed integer programming (MIP), and other related problems. It is a set of routines written in ANSI C and organized in the form of a callable library.

GLPK supports the GNU MathProg modeling language, which is a subset of the AMPL language.

The GLPK package includes the following main components:

- primal and dual simplex methods
- primal-dual interior-point method
- branch-and-cut method
- translator for GNU MathProg
- application program interface (API)
- stand-alone LP/MIP solver

## **Downloading GLPK**

The GLPK distribution tarball can be found on <a href="http://ftp.gnu.org/gnu/glpk/">http://ftp.gnu.org/gnu/glpk/</a> [via http] and <a href="http://ftp.gnu.org/gnu/glpk/">ftp://ftp.gnu.org/gnu/glpk/</a> [via FTP]. It can also be found on one of <a href="http://gnu.org/gnu/glpk/">our FTP mirrors</a>; please use a mirror if possible.

To make sure that the GLPK distribution tarball you have downloaded is intact you need to download the corresponding .sig file and run a command like this:

```
gpg --verify glpk-4.32.tar.gz.sig
```

If that command fails because you do not have the required public key, run the following command to import it:

gpg --keyserver keys.gnupg.net --recv-keys 5981E818

and then re-run the previous command.

#### **Documentation**

The GLPK documentation consists of the Reference Manual and the description of the GNU MathProg modeling language. Both these documents are included in the distribution (in LaTeX, DVI, and PostScript formats).

## **Mailing Lists/Newsgroups**

GLPK has two mailing lists: <u>help-glpk@gnu.org</u> and <u>bug-glpk@gnu.org</u>.

The main discussion list is <u>help-glpk@gnu.org</u>, and is used to discuss all aspects of GLPK, including development and porting.

There is a separate list used for reporting bugs, <u>bug-glpk@gnu.org</u>. For details on submitting a bug report, please see the section <u>Report a Bug</u> below.

Announcements about GLPK and most other GNU Software are made on <u>info-gnu@gnu.org</u>.

To subscribe to these or any GNU mailing lists, please send an empty mail with a Subject: header line of just "subscribe" to the relevant -request list. For example, to subscribe yourself to the main GLPK discussion list, you would send mail to <a href="help-glpk-request@gnu.org">help-glpk-request@gnu.org</a> with no body and a Subject: header line of just "subscribe". Another way to subscribe is to use the mailing list interface; see <a href="help-glpk">Help-glpk</a> and <a href="help-glpk">Bug-glpk</a>.

Currently there are no newsgroups dedicated to GLPK.

#### Request an Enhancement

If you would like any new feature to be included in future versions of GLPK, please send a request to <u>help-glpk@gnu.org</u>.

Please remember that development of GLPK is a volunteer effort, and you can also contribute to its development. For information about contributing to the GNU Project, please read <u>How to help GNU</u>.

## Report a Bug

If you think you have found a bug in GLPK, then please send as complete a report as possible to <u>bug-glpk@gnu.org</u>.

#### **Maintainer**

GLPK is currently being maintained by <u>mao@gnu.org</u>, <u>mao@mai2.rcnet.ru</u>.

Please send FSF & GNU inquiries to gnu@gnu.org. There are also other ways to contact the FSF.

The GLPK package is part of the GNU project, released under the aegis of GNU.

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