

# **GNU Linear Programming Kit for Windows**

Reference Manual

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# Chapter 1

## Introduction

The GNU Linear Programming Kit (GLPK)[2] package supplies a solver for large scale linear programming (LP) and mixed integer programming (MIP). The GLPK project is hosted at <http://www.gnu.org/software/glpk>.

It has two mailing lists:

- [help-glpk@gnu.org](mailto:help-glpk@gnu.org) and
- [bug-glpk@gnu.org](mailto:bug-glpk@gnu.org).

To subscribe to one of these lists, please, send an empty mail with a Subject: header line of just "subscribe" to the list.

GLPK provides a library written in C and a standalone solver.

The source code provided at <ftp://gnu.ftp.org/gnu/glpk/> contains the documentation of the library in file `doc/glpk.pdf`.

Project GLPK for Windows delivers precompiled executables for Windows. It is hosted at <http://winglpk.sourceforge.net/>.

## Chapter 2

# Installation

The GLPK for Windows package can be downloaded from <http://winglpk.sourceforge.net/>.

It is distributed as a compressed archive. Please decompress it to your preferred installation path (e.g. `c:\program files\glpk`).

The executables and dynamic link libraries for 32 bit Windows can be found in directory `w32`, those for 64 bit Windows can be found in directory `w64`.

The libraries have to be in the search path for binaries when executing the standalone solver `glpsol.exe`. Therefore it is suggested to copy the DLLs to `%SystemRoot%\system32` (e.g. `c:\windows\system32`).

The documentation can be found in directory `doc`. If you want to use the GNU Math Programming Language (GMPL), please read `gmpl.pdf`. If you want to use the library in your own coding, please, refer to `glpk.pdf`.

## Chapter 3

# Building

As GLPK for Windows comes with precompiled binaries it is normally not necessary to build the software.

The script used to build the package is provided as `Build_WinGLPK.bat` with the distribution.

The following software is needed

- Windows 10 64bit or later release
- Java SE Development Kit (JDK) available at <http://java.sun.com/javase/downloads/index.jsp>.
- Microsoft Visual Studio Community 2015 available at <https://www.visualstudio.com/en-us/products/visual-studio-community-vs.aspx>
- Windows Software Development Kit (SDK) for Windows 7, and .NET Framework 4.0 available at <http://www.microsoft.com/downloads/en/default.aspx>
- GnuWin32 available at <http://gnuwin32.sourceforge.net/>
- SWIG (Simplified Wrapper and Interface Generator)[3] available at <http://www.swig.org>

When building, please, create a new directory and copy only `Build_WinGLPK.bat` to the directory. In the command shell execute the script. The distribution files are created in subdirectory `release`.

## Chapter 4

# License

GLPK for Windows is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License[1] as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

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# Bibliography

- [1] Free Software Foundation, Inc. *GNU General Public License*, 2007.
- [2] Andrew Makhorin. *GNU Linear Programming Kit*. GNU Software Foundation, 2010.
- [3] SWIG.org. *Simplified Wrapper and Interface Generator*, 2010.



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