

gmp



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40 results

1. [source](#)
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Code owners

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Name	Last commit	Last update
..		
examples	Regenerate all Makefile's after: Change resource string extension variable RSTEXT to '.rsj'	2 months ago
namespaced	* Dotted filenames for package gmp	1 year ago
src	* Remove outdated version number	4 months ago
Makefile	* Remove redundant Makefile.fpc	1 year ago
Makefile.fpc.fpcmake	* trunk to 3.3.1	6 years ago
fpmake.pp	* Add namespaces.lst	1 year ago
namespaces.lst	* Dotted filenames for package gmp	1 year ago
readme	* note about location win32 dll	15 years ago

[readme](#)

Readme for libgmp.tar.bz2 2009-09-06

= What

Free Pascal interface for the GNU Multiple Precision Arithmetic Library.

= Why

Numeric computing outside the built in types range. AFAIK there is no complete

binding for Free Pascal available yet.

= Files

- gmp_accept_test.pas

"Go/no go" test of the gmp unit against the GMP library on your system.

- gmp.pas

The interface unit.

- gmp_testcase.pas

Put this unit in your uses clause of a fpcunit project.

- gmp_test_impl.inc

- gmp_test_intf.inc

Test classes declarations and implementations. Included by:

- * gmp_accept_test.pas

- * gmp_testcase

- pidigits_example.pas

Original source from:

[shootout.alioth.debian.org/u64/benchmark.php?](http://shootout.alioth.debian.org/u64/benchmark.php?test=pidigits&lang=fpascal&id=2)

[test=pidigits&lang=fpascal&id=2](http://shootout.alioth.debian.org/u64/benchmark.php?test=pidigits&lang=fpascal&id=2)

Adapted for using the gmp unit.

- pidigits_example2.pas

Modified pidigits_example.pas to demonstrate usage of the gmp extensions.

- printf_example.pas

Demo using the GMP printf

- printf_example2.pas

Dtto with gmp extensions.

- scanf_example.pas

Demo using the GMP scanf.

- scanf_example2.pas

Dtto with gmp extensions.

= Status

- Tested on 64 and 32 bit Linux and on 32 bit Windows.
- Known issues
 - * There is a link error on Windows with the GMP global variables. Probably could be solved with someone's better knowledge of the Windows environment.

= Bindings

- Standard
 - * Almost full (see comments in gmp.pas) binding of the types and

functions

exported from libgmp.

- Extensions

* Based on pseudo value types (in fact interface types) with an automatic memory management in the spirit of Object Pascal strings - compiler takes

care of initialization/finalization. Copy on write semantics. Can intermix

the standard binding/types with the extended ones. The extended types have

access to a same set of numeric functions as in the standard binding.

- Operators

* Overloaded operators for the extensions value types. Can make programs significantly more readable/maintainable. See and compare for yourself in the pidigits examples. BTW, the overhead in this example with the extended types and operators is less than 10%. Unusable for shootout,

but is probably acceptable in many other areas.

= Tips

- range checks

You should probably want to put asserts with `*_fits` before conversion to FPC ordinal types - applies to the assignment operator too.

= License

- FPC developers, you can do anything you see appropriate with the sources. Review, refactor and/or reject :-)

= Windows

I got the examples running under win32 by getting the mingw-dynamic package on

`http://cs.nyu.edu/exact/core/gmp/`

and then renaming it to `gmp.dll`