ANNOUNCING REDUCE 3.6

Version 3.6 of REDUCE is now available for distribution. This is the first major update since the release of REDUCE 3.5 in October 1993. As is usual for a new release, a large number of bugs and awkward features (including those documented in the *patches.red* file available from the REDUCE Network Library) have been corrected. Taken together with the many new features that have been added, REDUCE 3.6 represents a significant enhancement over previous versions.

In addition to the capabilities of the original release of REDUCE 3.5, this new version supports, among other things:

- definite integration
- noncommutative Gröbner bases
- expanded special function handling
- improved solve capabilities
- improved trigonometric simplification
- linear algebra and linear programming
- matrix normal forms
- operations on sets
- residue computations.

The REDUCE algebraic mode has been improved substantially since the last release, and in particular offers improved rule list capabilities, including free operators, conditional binding of variables and better matching facilities for quotients. The REDUCE graphics interface has also been improved. For example, a user is now able to plot an implicitly defined function.

A large number of different people are responsible for these improvements. Other special purpose packages contributed by users include:

- APPLYSYM: Infinitesimal symmetries of differential equations
- BOOLEAN: Boolean algebra
- DUMMY: Canonical form of expressions with dummy variables
- FPS: Calculation of formal power series
- INVBASE: Computation of involutive bases
- NCPOLY: Non–commutative polynomial ideals
- NORMFORM: Computation of matrix normal forms

- RANDPOLY: A random polynomial generator
- XCOLOR: Color factor in non-abelian gauge field theories
- XIDEAL: Gröbner Bases for exterior algebra
- ZEILBERG: Indefinite and definite summation
- ZTRANS: Calculations with the Z and inverse Z transform.

Updated documentation includes an improved User's Manual in LaTeX format, a more detailed online help system for MS/Windows and Unix/X11 Systems and a bibliography listing over 800 references to REDUCE-related publications.

A complete information package is obtainable from:

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If you have e-mail access to the Internet, you can also obtain current information by sending the message *send info-package* to reduce-netlib@rand.org, reduce-netlib@can.nl or reduce-netlib@pi.cc.u-tokyo.ac.jp. The single line message can either be the subject of the message or the body. This message is answered by an automated server for the REDUCE network library. The library will in time contain any packages made available since the release of REDUCE 3.6 and patches to correct any bugs that may be discovered. Further information on this library, as well as instructions on how to join the REDUCE electronic forum, can be obtained by including the word *help* on a separate line in the message.

The same information is available from an Internet gopher server with the address info.rand.org. The network library files are in a "REDUCE Library" directory under the directory "Publicly Available Software". The relevant URL is gopher://info.rand.org/11/software/reduce .

A World Wide Web REDUCE server with URL http://www.rrz.uni-koeln.de/REDUCE/ is also supported. In addition to general information about REDUCE, this server has pointers to the network library, the demonstration versions, examples of REDUCE programming, a set of manuals, and the REDUCE online help system.