NEWS for pracma version 1.3.1

December 7, 2012

NEWS *pracma News*

Changes in Version 1.3.1 (2012-12-06)

- Explicitely listing about 185 Matlab-emulating function names.
- Dismissed matlab(), using it now for infos only, not assigning Matlab function names to the environment (because of CRAN policies).

Changes in Version 1.3.0 (2012-12-05)

- cot(), csc(), sec() cotangens, cosecans, and secans functions.
- acot(), acsc(), asec() inverse cotangens, cosecans, secans.
- coth(), csch(), sech() hyperbolic cotangens, cosecans, secans.
- acoth(), acsch(), asech() inverse hyperbolic cotangens, cosecans, and secans functions.

Changes in Version 1.2.9 (2012-12-02)

- bvp() changed to solve second order boundary value problems.
- trisolve() solves tridiagonal linear equation systems.
- curvefit() fits points in the plane with a polynomial curve.

Changes in Version 1.2.8 (2012-11-30)

- lsqlin() least-squares solver with linear equality constraints.
- pinv() now works like MASS::ginv() for singular matrices.
- Added the end-';' feature to str2num().
- toc() added invisible return value.

Changes in Version 1.2.7 (2012-11-22)

- procrustes() solving the Procrustes problem, and kabsch() implements the Kabsch algorithm.
- kriging() ordinary and simple Kriging interpolation.
- Corrected some stupid errors in str2num().

Changes in Version 1.2.6 (2012-11-11)

- akimaInterp() univariate Akima interpolation.
- Moved transfinite() to package 'adagio'.

Changes in Version 1.2.5 (2012-09-28)

- histc() Histogram-like counting (Matlab style).
- Added warning to complexstep() if imaginary part is zero.

Changes in Version 1.2.4 (2012-10-25)

- Added option 'pinv' to mldivide() to return the same results as Matlab.
- str2num(), num2str() conversion functions (Matlab style).
- Removed some 'author' entries on help pages.

Changes in Version 1.2.3 (2012-10-17)

- Renamed mrank() to Rank().
- Corrected nullspace() [thanks to Stephane Laurent], which now agrees with Octave's null() function (MASS:Null appears buggy, too).
- Corrected gaussNewton() and fsolve() [thanks to Etienne Chamayou].

Changes in Version 1.2.2 (2012-10-10)

- bsxfun() apply binary function elementwise (Matlab style).
- added the analytic solution for the example in bvp().

Changes in Version 1.2.1 (2012-09-28)

- rosenbrock() added, moved testfunctions to 'adagio' package.
- euler_heun() improved Euler method for solving ODEs.
- logit() function added to sigmoid().
- Keyword 'ode' introduced.

Changes in Version 1.2.0 (2012-09-27)

- matlab() can reinstall Matlab function names.

Changes in Version 1.1.9 (2012-09-25)

- gcd(), lcm() greatest common divisor, least common multiple now working on a vector of integers.
- Removed number-theoretic functions: eulersPhi(), moebiusFun(), mertensFun(), sigma(), tau(), omega(), Omega(), primes2(), twinPrimes(), nextPrime(), previousPrime(), modpower(), modorder(), modinv(), modlin(), agm(), primroot(), contfrac(), coprime(), GCD(), LCM(), extGCD(), (these functions are now available in the 'numbers' package).

Changes in Version 1.1.8 (2012-09-19)

- ezcontour(), ezmesh() wrappers for contour(), image(), persp().
- erfi() imaginary error function.

Changes in Version 1.1.7 (2012-08-06)

- moler() Moler matrix

Changes in Version 1.1.6 (2012-07-20)

- Removed '.Rapphistory' from the tests directory (again) [and use "–as-cran" for the checks].
- disp() display text or array (Matlab Style), cat() with newline.

Changes in Version 1.1.5 (2012-07-18)

- Renamed functions with capital first letter to avoid name clashes: And/Or, mtrace -> Trace, mdiag -> Diag, strtrim -> strTrim, reshape -> Reshape, find -> Find, fix -> Fix, mode -> Mode, real -> Real, imag -> Imag, hadamard -> Hadamard, toeplitz -> Toeplitz, poly -> Poly.

Changes in Version 1.1.4 (2012-06-26)

- gammainc() (lower and upper) incomplete gamma function, also the regularized gamma function, all allowing negative x values.
- polylog() the polylogarithm functions for |z| < 1 and n >= -4 .

Changes in Version 1.1.3 (2012-06-17)

- fminsearch() implements Nelder-Mead (similar to optim), and Fletcher-Powell when "dfree=FALSE" is chosen.
- Test functions rosenbrock(), rastrigin(), and many more.

Changes in Version 1.1.2 (2012-06-13)

- nelder_mead() implements Nelder-Mead for nonlinear optimization.
- hooke-jeeves() Hooke-Jeeves algorithm for direct search.
- fletcher_powell() Davidon-Fletcher-Powell method for function minimization (alternative to BFGS approach).
- steepest_descent() minimization of functions using steepest descent.

Changes in Version 1.1.1 (2012-06-10)

- fminbnd() implements Brent's function minimization algorithm with golden section search and parabolic interpolation (same as optimize).
- transfinite() transformation function between bounded and unbounded (box constraint) regions.
- renamed brentDekker() to brent_dekker

Changes in Version 1.1.0 (2012-06-06)

- hurst(), hurstexp() calculate the Hurst exponent of a time series.
- Updated the NEWS.Rd file.

Changes in Version 1.0.9 (2012-06-03)

- lsqnonneg() solves nonnegative least-squares problems by using the trick “x –> exp(x)" and applying lsqnonlin(); example function lsqcurvefit() for nonlinear curve fitting.
- Renamed ridder() to ridders(), thanks to Robert Monfera for pointing it out (he also suggested a multi-dimensional variant).

Changes in Version 1.0.8 (2012-05-22)

- movavg() moving average of types “simple", “weighted", “modified", “exponential" (EMA), or “triangular".
- modlin() solves modular linear equations.

Changes in Version 1.0.7 (2012-05-11)

- lsqnonlin() solves nonlinear least-squares problems using the Levenberg-Marquardt approach.
- renamed froots() to findzeros(), and fmins() to findmins().

Changes in Version 1.0.6 (2012-04-21)

- fornberg() finite difference (i.e., polynomial) approximation of derivatives for unevenly spaced grid points – Fornberg’s method.

Changes in Version 1.0.5 (2012-04-15)

- randsample() randomly sampling, alias for sample (Matlab style).
- rands() generates uniform random points on an N-sphere.
- Added tic(), toc() measuring elapsed time (Matlab style).
- previousPrime() finds the next prime below a number.

Changes in Version 1.0.4 (2012-04-01)

- invlap() computes the inverse Lapacian numerically.
- ppfit() piecewise polynomial fitting procedure.

Changes in Version 1.0.3 (2012-03-21)

- cubicspline() interpolating cubic spline (w/ endpoint conditions).
- mkpp() and ppval() for piecewise polynomial structures.

Changes in Version 1.0.2 (2012-03-17)

- accumarray() resembles the related Matlab function more closely.
- invperm() returns the inverse of a permutation.
- randperm() changed to make it more Matlab-like.

Changes in Version 1.0.1 (2012-03-09)

- agm() example computes pi to an arbitrary number of decimal digits using the Rmpfr package for variable precision arithmetic.
- plotyy() corrected right ordinate, prettying the labels.
- peaks() peaks function (Matlab style).

Changes in Version 1.0.0 (2012-03-01)

- Updated the NEWS.Rd file.

Changes in Version 0.9.9 (2012-01-29)

- qrSolve solves overdetermined system of linear equations.
- DSCsearch() removed, now in package 'pracopt'.
- randp() found a better, non-selective approach.

Changes in Version 0.9.8 (2012-02-23)

- gramSchmidt() modified Gram-Schmidt process.
- householder() Householder reflections and QR decomposition.
- givens() Givens rotation and QR decomposition.
- corrected a small error in ridder() (thanks to Roger Harbord).

Changes in Version 0.9.7 (2012-02-17)

- erf() corrected, erfc() and erfcx() as new functions, including their inverses erfinv() and erfcinv().
- hypot() now numerically more stable (thanks to Jerry Lewis).

Changes in Version 0.9.6 (2012-01-25)

- Changed third example for dblquad() [new Windows toolchain problem].
- Deactivated the test for gammaz() because of problems on Solaris.

Changes in Version 0.9.5 (2012-01-16)

- kmeanspp() kmeans++ clustering algorithm.
- savgol() and hampel() with new options, fuelled by a blog entry of Ron Pearson in his ExploringDataBlog.

Changes in Version 0.9.4 (2012-01-08)

- DSCsearch() Davies-Swann-Campey search in one dimension.
- Improved modpower() through modular exponentiation. Added lehmann_test() Lehmann's primality test as example.
- Corrected polar() and andrewsplot().

Changes in Version 0.9.3 (2011-12-27)

- direct1d() one-dimensional version of the DIRECT algorithm for global function minimization.

Changes in Version 0.9.2 (2011-12-26)

- ApEn() approximate entropy of a time series.
- circshift() circularly shifting arrays (Matlab Style).

Changes in Version 0.9.1 (2011-12-12)

- plotyy() plots curves with y-axes on both left and right side.
- fplot() plots components of a multivariate function.

Changes in Version 0.9.0 (2011-12-11)

- errorbar() routine for plotting error bars in both directions.
- Whittaker-Henderson smoothing ** Not yet running** .
- rref() reduced row echelon form.

Changes in Version 0.8.9 (2011-12-08)

- cutpoints() automatically finds cutting points based on gaps.
- hausdorff_dist calculates the Hausdorff distance / Hausdorff dimension.
- nnz() number of non-zeros elements (Matlab style).

Changes in Version 0.8.8 (2011-12-06)

- polar() for polar plots (Matlab style), see the example plots.
- andrewsplot() plots Andrews curves in polar coordinates.
- Vectorized: cart2sph(), sph2cart(), cart2pol(), pol2cart().

Changes in Version 0.8.7 (2011-11-30)

- deg2rad(), rad2deg()
- figure() Matlab style, and pltcross() plotting crosses.

Changes in Version 0.8.6 (2011-11-21)

- ridder() Ridder's method for zero finding of univariate functions.

Changes in Version 0.8.5 (2011-11-19)

- sqrtm() matrix square root, based on Denman-Beavers iteration, rootm() matrix p-th root, computing a complex contour integral, signm() matrix sign function.
- fzero() now uses the new zeroin() function, i.e., a Brent-Dekker approach instead of refering to uniroot().
- twinPrimes() twin primes in a given interval, and `nextPrime` will find the next higher prime.

Changes in Version 0.8.4 (2011-11-14)

- Transformations between cartesian, spherical, polar and cylindrical coordinate systems: cart2sph(), sph2cart(), cart2pol(), pol2cart().
- polar() uniformly random points in the unit circle (till Matlab 5).

Changes in Version 0.8.3 (2011-11-11)

- accumarray() grouping elements and applying a function to each group.
- uniq() Matlab-style 'unique' function, allsums() in the examples.
- small correction to fsolve(), mentioned on the 'check summary' page.

Changes in Version 0.8.2 (2011-11-04)

- newmark() Newmark's method for solving second order differential equations of the form y"(t) = f(t, y(t), y'(t)) on [t1, t2].
- cranknic() Crank-Nicolson 'ivp' solver, combining the forward and backward Euler methods for ordinary differential equations.

Changes in Version 0.8.1 (2011-10-30)

- Corrected pinv() for (nearly) singular matrices.
- Renamed ifactor() to factors().

Changes in Version 0.8.0 (2011-10-27)

- Minor corrections and improvements to the 'pracma.pdf' manual, incl. numdiff(), refindall(), trigApprox(), and subspace().

Changes in Version 0.7.9 (2011-10-22)

- spinterp() monotonic (and later on shape-preserving) interpolation following the approach of Delbourgo and Gregory.

Changes in Version 0.7.8 (2011-10-17)

- bvp() solves boundary value problems of the following kind:
  -u"(x) + c1 u'(x) + c2 u(x) = f(x) for x in [a, b].

Changes in Version 0.7.7 (2011-10-14)

- primes2(n1, n2) will return all prime numbers betweeen n1 and n2 (without storing the numbers from sqrt(n2) up to n1).

Changes in Version 0.7.6 (2011-08-05)

- gaussNewton() for function minimization and solving systems of nonlinear equations. fsolve() as a wrapper for it.
- fzsolve() for root finding of complex functions.
- softline() Fletcher's inexact linesearch algorithm.

Changes in Version 0.7.5 (2011-07-26)

- Put NEWS.Rd in the /inst subdirectory (and NEWS.pdf in /doc), thanks to Kurt Hornik; slightly changed the version numbering.

Changes in Version 0.7.4 (2011-07-22)

- rortho() generate random orthogonal matrix of size n.
- Titanium data set for testing fitting procedures.

Changes in Version 0.7.3 (2011-07-15)

- erf() and erfc() error and complementary error functions (Matlab style) as (almost) aliases for pnorm().
- erfz() complex error function.

Changes in Version 0.7.2 (2011-07-11)

- broyden() quasi-Newton root finding method for systems of nonlinear equations.

Changes in Version 0.7.1 (2011-07-09)

- cross() has been vectorized (remark on R-help).

Changes in Version 0.7.0 (2011-07-07)

- Sigmoid and Einstein functions.

Changes in Version 0.6.9 (2011-07-06)

- Runge-Kutta-Fehlberg method of order (5,4).

Changes in Version 0.6.8 (2011-07-05)

- triquad() Gaussian quadrature over triangles.
- cotes() Newton-Cotes integration formulae for 2 to 8 nodes.

Changes in Version 0.6.7 (2011-07-04)

- lagrangeInterp(), newtonInterp() Lagrange and Newton polynomial interpolation, neville() Neville's methods.
- tril(), triu() extracting triangular matrices (Matlab style).

Changes in Version 0.6.6 (2011-07-02)

- charpoly() computes the characteristic polynomial, the determinant, and the inverse for matrices that are relativly small, applying the Faddejew-Leverrier method.
- froots() to find *all* roots (also of second or higher order) of a univariate function in a given interval. The same with fmins() to find all minima.

Changes in Version 0.6.5 (2011-07-01)

- Adams-Bashford and Adams-Moulton (i.e., multi-step) methods for ordinary differential equations in function abm3pc().

Changes in Version 0.6.4 (2011-06-30)

- Changed the description to be more precise about the package.

Changes in Version 0.6.3 (2011-06-28)

- rationalfit() rational function approximation
- ratinterp() rational interpolation a la Burlisch-Stoer.

Changes in Version 0.6.2 (2011-06-26)

- pade() Pade approximation.

Changes in Version 0.6.1 (2011-06-25)

- quadgk() adaptive Gauss-Kronrod quadrature.

Changes in Version 0.6.0 (2011-06-24)

- muller() Muller's root finding method.
- Added differential equation example to expm()'s help page.
- Changed NEWS file to become simpler (no subsections).

Changes in Version 0.5.9 (2011-06-23)

- quadl() recursive adaptive Gauss-Lobatto quadrature.
- simpadpt() another recursively adaptive Simpson's rule.
- Added testing procedures for all integration routines; corrected, refined some of these procedures.

Changes in Version 0.5.8 (2011-06-20)

- quadgr() Gaussian Quadrature with Richardson extrapolation, can handle singularities at endpoints and (half-)infinite intervals.

Changes in Version 0.5.7 (2011-06-18)

- expm() for matrix exponentials.
- clenshaw_curtis() the Clenshaw-Curtis quadrature formula.

Changes in Version 0.5.6 (2011-06-17)

- simpson2d() as non-adaptive 2-dimensional Simpson integration.
- dblquad() twofold application of internal function integrate().

Changes in Version 0.5.5 (2011-06-15)

- gaussHermite() and gaussLaguerre() for infinite intervals.
- Fresnel integrals fresnelS() and frenelC().

Changes in Version 0.5.4 (2011-06-12)

- gaussLegendre() computes coefficients for Gauss Quadrature, and quad2d() uses these weights for 2-dimensional integration.
- quadinf() wrapper for integrate() on infinite intervals.
- Added a version for rapid pi computation to the agm() examples.

Changes in Version 0.5.3 (2011-06-06)

- ode23() solving first order (systems of) differential equations.
- barylag2d() 2-dimensional barycentric Lagrange interpolation.

Changes in Version 0.5.2 (2011-06-04)

- interp2() for two-dimensional interpolation.
- gradient() now works in two dimensions too.

Changes in Version 0.5.1 (2011-06-01)

- fzero(), fminbnd(), fminsearch(), fsolve() as aliases for uniroot(), optimize(), optim() with Nelder-Mead, newtonsys().

Changes in Version 0.5.0 (2011-05-31)

- Corrections to help pages.

Changes in Version 0.4.9 (2011-05-30)

- romberg() and gauss_kronrod() for numerical integration.
- Richardson's extrapolation in numderiv(), numdiff().
- Discrete numerical derivatives (one dimension): gradient().

Changes in Version 0.4.8 (2011-05-28)

- Numerical function derivatives: fderiv(), grad().
- Specialized operators: hessian(), laplacian().
- Application: taylor().

Changes in Version 0.4.7 (2011-05-27)

- plot vector fields: quiver() and vectorfield().
- findintervals().
- Corrections in deval(), deeve(), using findintervals().

Changes in Version 0.4.6 (2011-05-26)

- Laguerre's method laguerre().
- rk4() and rk4sys() classical fourth order Runge-Kutta.
- deval(), deeve() evaluate ODE solutions.

Changes in Version 0.4.5 (2011-05-24)

- Lebesgue coefficient: lebesgue().
- poly2str() for string representation of a polynomial.

Changes in Version 0.4.4 (2001-05-23)

- Dirichlet's eta() and Riemann's zeta() function.
- rmserr() different accuracy measures; std_err() standard error.

Changes in Version 0.4.3 (2001-05-22)

- polypow() and polytrans() for polynomials.
- polyApprox() polynomial approximation using Chebyshev.
- trigPoly(), trigApprox() for trigonometric regression.

Changes in Version 0.4.2 (2001-05-17)

- segm_intersect() and segm_distance() segment distances.
- inpolygon().

Changes in Version 0.4.1 (2011-05-13)

- polyadd() polynomial addition.
- conv() and deconv() time series (de)convolution.
- detrend() removes (piecewise) linear trends.
- ifft() for normalized inverse Fast Fourier Transform.

Changes in Version 0.4.0 (2011-05-10)

- Added tests for functions since version 0.3-7.

Changes in Version 0.3.9 (2011-05-09)

- and() and or().

Changes in Version 0.3.8 (2011-05-06)

- pchip() and option 'cubic' for interp1() interpolation.
- The complex gamma functions gammaz().
- hadamard() and toeplitz() matrices.

Changes in Version 0.3.7 (2011-05-04)

- Rank of a matrix, mrank(), and nullspace() for the kernel.
- orth(), orthogonal basis of the image space, and subspace() determines the angle between two subspaces.
- normest() for estimating the (Frobenius) norm of a matrix, and cond() determines the condition number of a matrix.

Changes in Version 0.3.6 (2011-04-30)

- fact(), more accurate than the R internal function 'factorial'.
- ezplot() as an alias for curve(), but with option "fill = TRUE".
- aitken() for accelerating iterations.
- Renamed polycnv() to polymul().
- Renamed outlierMAD() to hampel().

Changes in Version 0.3.5 (2011-04-23)

- agm() for the arithmetic-geometric mean.
- Lambert W function lambertWp() for the real principal branch.
- "Complex Step" derivation with complexstep() and complexstepJ().

Changes in Version 0.3.4 (2011-04-21)

- Barycentric Lagrange interpolation through barylag().
- polyfit2() fits a polynomial that exactly meets one additional point.
- Added more references to the help entry 'pracma-package.Rd'.

Changes in Version 0.3.3 (2011-04-19)

- hornerdefl() for also returning the deflated polynomial.
- newtonHorner() combining Newton's method and the Horner scheme for root finding for polynomials.
- jacobian() computes the Jacobian of a function R^n –> R^m as simple numerical derivative.
- newtonsys() applies Newton's method to functions R^n –> R^n with special application to root finding of complex functions.
- newton() renamed to newtonRaphson().

Changes in Version 0.3.2 (2011-04-17)

- Sorting functions: bubbleSort(), insertionSort(), selectionSort(), shellSort(), heapSort(), mergeSort(), mergeOrdered(), quickSort(), quickSortx(), is.sorted(), and testSort().
- Functions from number theory: eulersPhi(), moebiusFun() and the mertensFun(), sigma(), tau(), omega(), and Omega().

Changes in Version 0.3.1 (2011-04-16)

- Chebyshev polynomials of the first kind: chebPoly(), chebCoeff(),and chebApprox().

Changes in Version 0.3.0 (2011-04-09)

- New version of news.Rd, news.pdf.
- More test functions for root finding and quadrature.

Changes in Version 0.2.9

- fnorm() and the Runge function runge().
- contfrac(), rat(), and rats() for continuous fractions.
- meshgrid() and magic().

Changes in Version 0.2.8

- quad() adaptive Simpson quadrature.
- Minimum finding with fibsearch() and golden_ratio().
- Root finding with newton(), secant(), and brentDekker().

Changes in Version 0.2.7

- Regular expression functions regexp(), regexpi(), regexprep() and refindall().

Changes in Version 0.2.6

- String functions blanks(), strtrim(), deblank(), strjust(), and strrep().
- interp1() one-dimensional interpolation (incl. spline)

Changes in Version 0.2.5

- Matlab functions mode(), clear() and beep().

Changes in Version 0.2.4

- primroot() finds the smallest primitive root modulo a given n; needed functions are modpower() and modorder().
- humps() and sinc(): Matlab test functions.
- Root finding through bisection: bisect(), regulaFalsi().
- outlierMAD(), findpeaks(), and piecewise().
- polycnv() for polynomial multiplication.
- Functions extgcd(), gcd(), and lcm() have been renamed to extGCD(), GCD(), and LCM() respectively.

Changes in Version 0.2.3

- strfind(), strfindi(), and findstr().
- circlefit() fitting a circle to plane points.
- mldivide() and mrdivide(), emulating the Matlab backslash operator.

Changes in Version 0.2.2

- vnorm() vector norm
- Warning about a nasty "non-ASCII input" in the savgol.RD file has been resolved.

Changes in Version 0.2.1

- horner() implementing the horner scheme for evaluating a polynomial and its derivative.
- savgol() Savitzki-Golay smoothing and needed pseudoinverse pinv().

Changes in Version 0.2.0

- Package renamed to 'pracma' to avoid name clashes with packages such as 'matlab' that are sticking closer to the original.
- Added 'pracma-package' section to the manual.

Changes in Version 0.1.9

- reshape(), repmat(), and blkdiag() matrix functions.
- combs() chooses all combinations of k elements out of n, and randcomb() generates a random selection.
- perms() generates all permutations, randperm() a random permutation.
- Pascal triangle as pascal(); nchoosek() returns binomial coefficients.
- Some string functions: strcmp(), strcmpi(), strcat().

Changes in Version 0.1.8

- std() as refinement of the standard deviation function.
- ceil() and fix() as aliases for ceiling() and trunc(). [floor() and round() already exist in R.]
- Modulo functions mod(), rem() and integer division idiv().
- Integer functions related to the Euclidean algorithm: extgcd(), gcd(), lcm(), coprime(), and modinv().
- distmat() and crossn(), the vector product in n-dimensional space.

Changes in Version 0.1.7

- size(), numel(), ndims(), isempty(), and find().
- eye(), ones(), zeros().
- Functions returning random numbers: rand(), randn(), randi().
- linspace(), logspace(), and logseq() for linearly, logarithmically, and exponentially spaced sequences.
  Note that the functions in the 'matlab' package are not exactly mimicking the corresponding Matlab/Octave functions.

Changes in Version 0.1.6

- Matrix functions mdiag() and mtrace() added. inv() is introduced as an alias for solve() in R.
- Generate special matrices hankel(), rosser(), and wilkinson(). kron() is an alias for the R function kronecker().
- Renamed factors() to ifactor() to distiguish it more clearly from factors as used in R.

Changes in Version 0.1.5

- Added functions for flipping or rotating numeric and complex matrices: flipdim(), flipud(), fliplr(), and rot90().

Changes in Version 0.1.4

- Added basic complex functions real(), imag(), conj(), and angle() which are essentially only aliases of the R functions Re(), Im(), and Conj().
  angle() returns the angle of a complex number in radians. The R function Mod() is here only available as abs().

Changes in Version 0.1.3

- Added compan() function for the 'companion' matrix; the eig() function is an alias for the R eigen()values function.
- Added the polynomial functions poly(), polyder(), polyfit(), polyint(), and polyval().
- roots() returns real and complex roots of polynomials.
- Simplified the trapz() function.

Changes in Version 0.1.2

- Added functions from number theory: primes(), isprime() and factors().
- The corresponding function for factors() in Matlab/Octave is called factor(), but that name should not be shadowed in R!
- Added the polyarea() and trapz() functions.

Changes in Version 0.1.1

- Added some simple functions such as nthroot(), pow2(), and nextpow2().
- dot() and cross() functions for scalar and vector product.
- Generate matrices through vander() and hilb().

Changes in Version 0.1.0

- Installation

  'pracma' will be a pure R package without using source code in C or Fortran. Therefore, installation will be immediate on all platforms.
- Intention

  This package provides R implementations of more advanced math functions from Matlab and Octave (and the Euler Math Toolbox) with a special view on optimization and time series routines.
- Remark: Typeset this document as:

  `R CMD Rd2pdf NEWS.Rd --title="NEWS for pracma version 1.3.1".`

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