

	2024-4				2024-5				2024-6				2024-7				2024-8				2024-9							
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39		
<b>CoCoA</b> Web site: <a href="mailto:link for bugs, suggestions">mailto link for bugs, suggestions (...)</a> Look of first Redmine page linked from CoCoA (...) <b>ApCoCoA</b> New ApCoCoA UI Interactive window and history mechanism Input tabbed windows associated to files ApCoCoA projects ApCoCoA: separate window for manual How to connect GUI to cocoa5 executable? <b>CoCoA-5</b> intersection Hermite normal form RingID: remove this function? Profiling with clang CanonicalHom Manual of functions vs ManExamples CoCoA-5 releases on redmine CoCoA-5 - CoCoA-5.4.2 Automatic mapping between (some) (...) theValue makes copy Elim ordering and matrix ordering (...) C++11 compatibility questions OpenOFile Functions throwing error even though (...) Janet Bases: port function into (...) CoCoA-5 Projects for students (e.g. (...) Installation instructions (on website)	<b>CoCoA-5</b>																											

port SmithNormalForm (CoCoA-4)package (...)  
EmacsUI Source/SourceRegion produce (...)  
Emacs UI; remove cruft  
Eliminate package BinRepr  
Review utility of package IO  
CoCoAManual: improve part on input/output  
Gaussian Elimination  
Prototype package for Linear Commutative (...)  
Variable It: assign before or after (...)  
Speed of some Normaliz calls (NmzComputation)  
NotBuiltin.cpkg5: indent for MODULE  
Referring to indets with multiple (...)  
Emacs UI: send-file (C-c C-f) should (...)  
Implicit: make easier to use with (...)  
Add TUTORIALs to online manual  
Clean up CoCoALibSupplement  
Function "ideal" evaluates the (...)  
"universal denominator" (related (...)  
Microsoft (Windows 10, maybe other (...)  
Separators for elements of a list  
LinKerBasis is user-unfriendly  
CoCoAManual: AffHilbertFn accepts (...)  
Eigenvectors: inconsistent return (...)  
IsInRadical: for monomial ideals  
Use Flatpak and/or Snap on Linux?  
RealRoots: rational roots (but (...)  
MinPoly for matrix: fix in cocoalib (...)  
SLUG: filling an array  
append is slow  
ker: for PolyAlgHom from  $QQ[x,y,z]$  (...)  
GDPR: website, mailing list  
MSatLinSolve: req minor improvements  
Online manual entry for RingElem (...)  
ShapeLemma: no manual entry

Split BuiltinFunctions-CoCoALib.C (...)  
Interpreter: fns which accept INT (...)  
Vim Plugin for CoCoA  
Automatic conversion from RINGELEM (...)  
CoCoA-5 manual: incorrect empty (...)  
CoCoA manual: entry for operators, (...)  
Package Edgeldeal not documented  
New function: find ?  
GFan also for Microsoft?  
GUI with Qt5  
thmproving package  
Manual entry for NewPolyRing  
MakeTerm: implement in C++  
Stack overflow reading long list (...)  
HTML manual: search using keywords?  
Emacs UI: cocoa5-shell-check-process (...)  
Disable readline if input is redirected  
Surprising parser error: INT+DOT+IDENTIFIER  
Automatic way to produce statically (...)  
Use symbolic links for release (...)  
Filenames in release CoCoAManual/html (...)  
IntersectList or IntersectionList  
Get indexed indets from a polyring  
Website: link to JSAG?  
HilbertSeries: make into proper (...)  
Lin alg with polys  
Documentation for making ring with (...)  
Emacs UI: indentation in a package  
Use "special" names for variables (...)  
SystemCommand in Microsoft version  
More flexible ring creation syntax (...)  
Initial ring  
Interpreter fn Value::from can (...)  
RingElem and IndetSymbols not compatible

**Install CoCoA-5 on MacOS-10.15+**  
**New functions: argmin, argmax**  
**foreach with ref to list entry?**  
**CoCoA coding conventions for parser/interpreter?**  
**CoeffOfTerm: in CoCoALibSupplement**  
**Man page for UniversalGBasis**  
**Add sagbi package**  
**Emacs: avoid making buffer visible (...)**  
**subst: not checking args properly**  
**DivAlg slower than NR**  
**elim for modules**  
**Geometrical theorem proving package**  
**What does rad do?**  
**RMap and image: obsolescent?**  
**ApproxSolveTF**  
**Slow sqfr: rad(f)**  
**New fn ElapsedTimeFrom?**  
**Unhelpful behaviour in "compatibility (...)**  
**SqFreeFactor crashes over non-perfect (...)**  
**Doc for the various BuiltIn files**  
**EmacsUI: annoying colours**  
**NewMat: should be obsolescent?**  
**Use filesystem::path instead of (...)**  
**Unexpected or unhelpful error using (...)**  
**Missing/Incomplete manual entries**  
**MinSubsetOfGens sometimes very (...)**  
**RealRoots: crashes after interrupting**  
**Allow user to choose whether to (...)**  
**ApproxSolve and RationalSolve take (...)**  
**Potentially confusing prompt: waiting (...)**  
**Jordan Normal Form?**  
**GCDList not documented**  
**Refactor C++ impl in OnlineHelp**  
**BuiltinFunctions-GFan includes (...)**

**Should Starting be case-insensitive?**

**Manual entry for random (see also)**

**Release CoCoA 5.4.2**

**Preliminary packages**

**Linux: just 1 executable, should (...)**

**Documentation/Manual for HilbertFn**

**ManExamples target: need t reset (...)**

**NewPolyRing with indices -- better (...)**

**Quitting can be slow**

**Continued fraction: arg type RAT (...)**

**GenReprCompute: SERIOUS ERROR**

**Strange bug: demo-Osaka2015**

**Makefile problem: needlessly relinks (...)**

**CoCoA-5 - CoCoA-5.4.4**

**Approximate BuchbergerMoeller: (...)**

**CoCoAManual: General part of the (...)**

**Emacs UI: keywords in multiline (...)**

**Manual: remove old stuff about (...)**

**Revive old CoCoA4 package called (...)**

**Emacs UI: slow with long lines**

**Poor memory management?**

**SLUG: RationalSolve slow and stupid**

**Add CoCoA5 function NmzHilbertBasisKer**

**BuiltinOneLiners -- less precise (...)**

**CantStop playing CantStop**

**Refine Poset impl & doc**

**Verbosity level in CoCoA5**

**EvalPolyAtMat**

**Make it easy to run the tests in (...)**

**Better error mesg for 1.2.3.4?**

**CoCoA web site "analytics"**

**Difference between seealso and (...)**

**Add CoCoA-5 syntax: syz(<F,> list (...)**

**New function ModuleElems? (like (...)**

**CoCoA-5 - CoCoA-5.?.?**

(short) manual for emacs interface

GUI: open file "with C5"

Error/warning if fn-proc is neither (...)

sort is too slow

BringIn should map only the indets (...)

rethrow in Try .. UponError .. (...)

I:f (IDEAL and RINGELEM) -- (...)

Qt GUI: Make better distinction (...)

GUI: Add an edit menu to the top (...)

C-c C-p in emacs goes to wrong (...)

Negate LIST, MAT,...

Template for unaryMinus?

InputForm for output readable as (...)

Appunti per (eventuale) tesi triennale (...)

More curiously slow code -- squaring (...)

Add LucasTest to cocoa5?

TeXmacs interface

--fullCoCoALibError prints too (...)

Which functions are defined in (...)

Documentation for Parser/Interpreter

GUI: message "running.." (close (...)

system variables

Colon operator, 2nd arg

allow single function call in "use" (...)

Hilbert: Redesign hp.cpkg5 and (...)

port optimized resolutions to CoCoA-5

intersection (all lower case)

Allow user to give a name to a (...)

Bug or feature for protected name? (...)

Emacs UI: Name of emacs init file

Emacs UI: very slow when input (...)

Assignment to protected variable

Port function NewSymbol/NewSymbols (...)

Automatic conversion from INT (or (...)  
interpolate  
Emacs UI: indentation is wrong (...)  
Eliminate keyword Alias?  
gcd too slow for large degree univariate (...)  
Unique copies of rings in CoCoA-5  
Warning about variable hiding another (...)  
ScalarProduct accepts MatrixRow?  
Cleaning: Cruft in CoCoA-5 packages  
New C5 fn for adjusting the warning (...)  
Toric: resurrect function TestSet (...)  
New operators: += -= \*= /=  
Resurrect MakeCheck()  
GUI: better name for the graphical (...)  
efficient subalgebras  
Interpreter.C: remove calls to (...)  
GUI: quitting provokes Imminent (...)  
Add functions based on MayerVietorisTree  
Output Betti numbers  
Windows-GUI: compilation with MinGW  
New operations? ScalarProduct(MODULELEM,LIST), (...)  
Unique copies of free modules?  
Emacs UI: use "warning colour" (...)  
MakeSet can be very slow  
eval: in which ring should the (...)  
use command, ring syntax, RingOf  
Ring ID: separate index values (...)  
Emacs UI: endfunc does not indent (...)  
Emacs UI: C-c C-\ copies line cursor (...)  
NUL char in input terminates CoCoA-5  
Emacs UI: swapped splitting  
Credits to CoCoA-5 contributors  
Add more operations for modules  
External Libs: missing dependencies (...)

External libs: specifying I/O streams (...)  
Primary Decomposition in CoCoA-5  
Elementary transcendental functions (...)  
IsDefined does not follow reference (...)  
New function: LeastDegPolynomial (...)  
CoCoA type "cone"  
Emacs UI: send-region and send-line (...)  
floor, ceil, and NearestInt for (...)  
append has bad complexity  
Interpreter is too slow reading (...)  
subst: allowed also for indets (...)  
LOGAR: make CoCoA-5 easier to use  
Escaped newline to allow a long (...)  
When is a semicolon needed to end (...)  
use command: unhelpful error if (...)  
CallOnGroebnerFanIdeals: better (...)  
Empty matrix: warning, error, or (...)  
ciao, exit, quit can be used not (...)  
Improve coverage of CoCoA-5 tests  
Managing credits  
New function: IdealAndSeparatorsOfPoints  
New function: MakeMultiset?  
CoeffSize: function to measure (...)  
GroebnerFanIdeals: order matrices (...)  
init file obligatory?  
New function: RingQQi()? extension (...)  
New syntax for creating poly rings?  
External dependencies for building  
Example of slow LEX GBasis computation  
ScalarProduct: exact defn and manual (...)  
Improve error message when args (...)  
CoCoAManual: improved search, or (...)  
PolyRing constructor: NewOrdvArith (...)  
EmacsUI: interrupt copies line (...)

<p> <b>GUI: bugs and slugs</b>  <b>CoCoA Online: install (using InteractiveShell)</b>  <b>Port RowMat, ColMat, MatByRows,... (...)</b>  <b>Generic Timeout for CoCoA-5?</b>  <b>Latex: matrix</b>  <b>New function: gin for algebraic (...)</b>  <b>CoCoA should read unicode</b>  <b>Allow Interruption of printing?</b>  <b>incr and decr are slow</b>  <b>New Fn: make a homogeneous list (...)</b>  <b>LinearSimplify: sometimes not optimal</b>  <b>Matrixrow-functions</b>  <b>Create a directory</b>  <b>Emacs UI: open manual pages in (...)</b>  <b>Clean up package points.cpkg</b>  <b>User forum?</b>  <b>Windows: Qt-Gui does not link correctly</b>  <b>Daft slug</b> </p> <p> <b>CoCoALib</b>  <b>CoCoALib - CoCoALib-0.99880</b>  <b>Matrix equation solving; linear (...)</b>  <b>Improve threadsafety</b>  <b>Matrix equation solving: LinKer</b>  <b>Printing polynomials - spaces between (...)</b>  <b>Play with GIT</b>  <b>Error: ERR::NotNonZero instead (...)</b>  <b>Elim(vector&lt;long&gt;) as PPOrderingCtor</b>  <b>Syzygy for modules: non-homogeneous (...)</b>  <b>Error codes: use same code for (...)</b>  <b>LongRange: in which file should (...)</b>  <b>Impl small non-prime finite fields (...)</b>  <b>DistrMPolyClean does not use MemPool (...)</b>  <b>MatrixOrderingMod32749Impl: test (...)</b>  <b>Update normaliz interface?</b> </p>	<p style="text-align: center;"><b>CoCoALib</b></p>
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<p> <b>Better errors: give supplementary (...)</b>  <b>SLUG: elimination</b>  <b>Test whether a symbol is in a ring</b>  <b>DivMask: extend interface?</b>  <b>Implement "elim" in CoCoALib</b>  <b>Cleanup MinPoly code</b>  <b>implicit, ImplicitHypersurface: (...)</b>  <b>Redesign ideals</b>  <b>LinSolve for matrices over FFp</b>  <b>strict enum types: C++11 extension</b>  <b>New function: cardinality of finite (...)</b>  <b>FlagManager for bool/bool3 flags</b>  <b>MachineInt or long for args which (...)</b>  <b>Separate configure scripts for (...)</b>  <b>MachineInt: change semantics?</b>  <b>IsRadical for ideal?</b>  <b>New function: multiplicity and (...)</b>  <b>Improve saturate</b>  <b>CoCoALib - CoCoALib-0.99900</b>  <b>Redmine Administration</b>  <b>Design new errors using inheritance</b>  <b>Which names to use? Intersection/saturation (...)</b>  <b>New function: IdealWithIncrementalGBasis(l, (...)</b>  <b>CoCoALib - CoCoALib-1.0</b>  <b>Sort out RingElem, RefRingElem, (...)</b>  <b>List of all functions in CoCoALib</b>  <b>printing polynomials</b>  <b>keywords in documentation</b>  <b>Cleanup header for ring classes (...)</b>  <b>Error Codes</b>  <b>automatic creation of all function (...)</b>  <b>Introduce PartialHom</b>  <b>Ideals of polynomials</b>  <b>LT over QQ: surprisingly slow</b> </p>	
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**IdealOfPoints** with generic coeffs  
**New datastructures** directory  
**Convert DUPFF** code to C++  
**Better GCD**  
**Design problem** in ideals  
**Convenience ring ctors** and homs  
**Buchberger-Moeller** (parent task)  
    **Buchberger-Moeller: fast modular** (...)  
    **Buchberger-Moeller: impl via** (...)  
**Buchberger-Moeller: input conversions**  
**Makefile dependencies**  
**RingOf** rather than owner? (and (...))  
**Iterated CanonicalHom**  
**GCD normalization** (e.g. monic)  
**Convert old "task table"** into redmine  
**IsStdGraded: add for PPOrdering,** (...)  
**PPWithMask** needs checking  
**Example for change of coordinates** (...)  
**HilbertBasis** from **Normaliz: full-lattice** (...)  
**Generator for random ring elements**  
**Documentation for QBGenerator** needs (...)  
**No test for QBGenerator**  
**Approx QIR**  
**Transcribe C4 code for GCD in QQ[x]**  
**Multivariate lifting**  
**Move the various <matrix>::mySetEntry** (...)  
**Forward declarations**  
**Eliminate class RefPPMonoidElem?**  
**Store unique copy of FF(p) in GlobalManager**  
**Global setting: to use IsProbPrime** (...)  
**PrimeField -- new fn?**  
**Modules design: brainstorming**  
**Compilation on M\$Windows: Visual** (...)  
**FreeModule: unique copy?**

<p> <b>Add doc for ApproxPts2</b>  submodule constructor different (...)  C++ nasty surprises  Why is DMPI slower than DMPClean?  Module homs  Missing documentation and tests (...)  CoCoAServer: what future, what (...)  Resolution/morse: integrate Mario (...)  add resolution data type  implement algorithm(s) for resolutions  PPMonoidElemAlias: redesign PPMonoidElem (...)  add myHilbertSeries member field (...)  add myJBMill member field to ideal  NewFreeModule of dimension 0  Minimal syzygies (optimized implementation)  Allow user to give a name to a (...)  Error names and error messages (...)  Semantics of IsPrintedWithMinus  Improve UPoly eval at BigRat for (...)  MemPool: order free blocks?  Polynomial multiplication (product (...))  Port RealRoots to C++  Eigenvectors  Which sets of generators in an (...)  LinearSimplify: port to CoCoALib  Unique copies of rings -- smart (...)  Clang: automatic bug finding  Documentation: write doc for RingDenseUPolyClean  Quick/correct flag for bool3 fns  Fn to "flatten" multiple polynomial (...)  Make squarefreefactor work in multiple (...)  FloatStr uses too much memory  Functions to clean up a factorization  elim using RingTwinFloat triggers (...)  </p>	
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**add myResolution member field (...)**  
**Reconsider overloaded virtual mem (...)**  
**Subrings**  
**Temporary file for experimentation**  
**FloatApprox for TwinFloat values?**  
**Documentation for ReductionCog**  
**Allow use of RingElem instead of (...)**  
**Split SparsePolyRing.H into two (...)**  
**Investigate using cmake for configuration**  
**New function for printing with (...)**  
**Implement gin (generic initial (...))**  
**Problem with template instantiation (...)**  
**configure: check all libraries (...)**  
**Redesign CRTMill**  
**Wikipedia**  
**Gaussian integer and rationals (...)**  
**Complex twin-floats**  
**Shadow CoCoA namespace to help (...)**  
**What is test-Dynamic1.C**  
**Buchberger-Moeller: add option (...)**  
**Unique copies of free modules?**  
**Optimized algorithms for implicitization (...)**  
**Laurent polynomials**  
**Integrate Janet/Pommaret basis (...)**  
**factor: multivariate + finite characteristic**  
**Matrix determinant over multivariate (...)**  
**Credits to CoCoALib contributors**  
**Accumulator (like a geobucket)**  
**MemPool: make it easier to get (...)**  
**PPMonoid: add fn to check for overflow (...)**  
**Use DivMask inside QBGenerator**  
**myAddMul in poly rings**  
**PolyAlgebraHom (PolyRingHom) evaluate (...)**  
**Fault tolerant rational reconstruction: (...)**

Remove cruft from test files  
Add more operations between modules (...)  
Example database: Slow ideal equality (...)  
Noncommutative algebra "of solvable (...)  
Betti numbers, betti diagram  
Extend homomorphism to polynomial (...)  
Addition of sparse (multivariate) (...)  
View PP exponent vector (and order (...)  
Problem with GBasis in tower of (...)  
Investigate using Boost.build instead (...)  
configure: have option to say to (...)  
GlobalManager: initialization compatible (...)  
ExternalLib-CDD: (needed by GFan)  
CoCoALib cone  
PPMonoid with 1 extra "exponent"?  
CRTMill::myAddInfo accept modulus (...)  
Makefile: problem not seeing when (...)  
GroebnerFan/ExternalLib-GFan: improve (...)  
threadsafety: Scott Meyers's advice (...)  
finite fields: global register (...)  
Remove refcounts from RingElem?  
No doc for DistrMPolyInIFpPP  
Clean code for DistrMPolyClean  
SmallFpImpl: make it faster  
vector of "indets" in each PPMonoid?  
PPOrdering: use it to compute WDeg?  
Alg Extn by non-zero dim ideal  
FastCmp for degree -- useful?  
PPMonoid pseudo-ctor without explicit (...)  
GenRepr in CoCoALib?  
F5 with 3 args?  
Sparse matrices  
MachineInt: function for checking (...)  
Generalize grading matrix

**UIBC: need include file in RingWeyl.C**  
**Make Mario's new code threadsafe**  
**factor is very slow on some simple (...)**  
**Differential algebra**  
**SparsePolyIter: make more compatible (...)**  
**GINV: alex basis**  
**NewPolyRing: tidy up the many different (...)**  
**PPMonoidSparse: comparisons are (...)**  
**IsIrred: correct design?**  
**SmallFpImpl: different repr for (...)**  
**bool3: add some logical operations?**  
**factor: too slow on largish multivariate (...)**  
**Impl faster multiplication for (...)**  
**DistrMPolyInIPP::myPushFront and (...)**  
**IsIrred3: fast 3-way irred test (...)**  
**myIsEqual, myCmp: direct comparisons (...)**  
**SmallFpDouble: which impl of InvMod (...)**  
**External libraries: keep copy of (...)**  
**Read input from SymbolicData database**  
**New function: quorem for univariate (...)**  
**Hilbert Driven GBasis**  
**Design GBMill**  
**Fn to read symbol range (SymbolRange)**  
**Documentation: check layout of (...)**  
**Printing TwinFloat as (rational) (...)**  
**LinDepMill: Mill for linear dependencies**  
**Slow NF example**  
**Weights in ElimMat?**  
**ex-PolyIterator**  
**QIR/RealRootRefine: improve behaviour (...)**