	2025-3			2025-4					2025-5				2025-6				2025-7					2025-8				
	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
CoCoA																										
Web site: mailto link for bugs, suggestions ()																										
Look of first Redmine page linked from CoCoA ()																										
ApCoCoA																										
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?																										
CoCoA-5	C	oCo/	<b>\-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)																										

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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 (...

Speed of some Normaliz calls (NmzComputation)

NotBuiltin.cpkg5: indent for MODULE

Referring to indets with multiple (...)

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 (...)

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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 (...)

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

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/interprer?

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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

RMap and image: obsolescent?

ApproxSolveTF

Slow sqfr: rad(f)

New fn ElapsedTimeFrom?

SqFreeFactor crashes over non-perfect (...)

Doc for the various BuiltIn files

EmacsUI: annoying colours

NewMat: should be obsolescent?

Use filesystem::path instead of (...)

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 to reset (...)

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NewPolyRing with indices -- better (...) Continued fraction: arg type RAT (...) GenReprCompute: SERIOUS ERROR Do not use random inside tests!! Makefile problem: needlessly relinks (...) CoCoA-5 - CoCoA-5.4.4 Approximate BuchbergerMoeller: (...) CoCoAManual: General part of the (...) Emacs UI: keywords in multiline (...) Emacs UI: send-file (C-c C-f) should (...) Manual: remove old stuff about (...) Revive old CoCoA4 package called (...) **Emacs UI: slow with long lines** Poor memory management? Disable readline if input is redirected SLUG: RationalSolve slow and stupid Add CoCoA5 function NmzHilbertBasisKer BuiltinOneLiners -- less precise (...) CantStop playing CantStop Unexpected or unhelpful error using (...) 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

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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 (...)

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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: qutting 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 (...)

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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 (...)

GUI: bugs and slugs

CoCoA Online: install (using InteractiveShell)

Port RowMat, ColMat, MatByRows,... (...)

**Generic Timeout for CoCoA-5?** 

Latex: matrix

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New function: gin for algebraic (...) CoCoA should read unicode Allow Interruption of printing? incr and decr are slow New Fn: make a homogeneous list (...) LinearSimplify: somtimes not optimal **Matrixrow-functions** Create a directory Emacs UI: open manual pages in (...) Clean up package points.cpkg User forum? Windows: Qt-Gui does not link correctly Daft slug CoCoALib CoCoALib - CoCoALib-0.99880 Matrix equation solving; linear (...) Improve threadsafety Matrix equation solving: LinKer Printing polynomials - spaces between (...) Play with GIT Error: ERR::NotNonZero instead (...) Elim(vector<long>) as PPOrderingCtor Syzygy for modules: non-homogeneous (...) Error codes: use same code for (...) LongRange: in which file should (...) Impl small non-prime finite fields (...) DistrMPolyClean does not use MemPool (...) MatrixOrderingMod32749Impl: test (...) Update normaliz interface? Better errors: give supplementary (...) SLUG: elimination Test whether a symbol is in a ring DivMask: extend interface?

Implement "elim" in CoCoALib

CoCoALib

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Cleanup MinPoly code implicit, ImplicitHypersurface: (...) Redesign ideals LinSolve for matrices over FFp strict enum types: C++11 extension New function: cardinality of finite (...) FlagManager for bool/bool3 flags MachineInt or long for args which (...) Separate configure scripts for (...) MachineInt: change semantics? IsRadical for ideal? New function: multiplicity and (...) Improve saturate Slug: Polynomial ring contructor (...) CoCoALib - CoCoALib-0.99900 **Redmine Administration** Design new errors using inheritance Which names to use? Intersection/saturation (...) New function: IdealWithIncrementalGBasis(I, (|...) **Documentation: translation table** CoCoALib - CoCoALib-1.0 Sort out RingElem, RefRingElem, (...) List of all functions in CoCoALib printing polynomials keywords in documentation Cleanup header for ring classes (...) **Error Codes** automatic creation of all function (...) **Introduce PartialHom** Ideals of polynomials LT over QQ: surprisingly slow IdealOfPoints with generic coeffs New datastructures directory

Convert DUPFF code to C++

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**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?

Add doc for ApproxPts2

submodule constructor different (...)

C++ nasty surprises

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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" muliple polynomial (...)

Make squarefreefactor work in multiple (...)

FloatStr uses too much memory

Functions to clean up a factorization

elim using RingTwinFloat triggers (...)

add myResolution member field (...)

Reconsider overloaded virtual mem (...)

**Subrings** 

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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 (...)

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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

SmallFplmpl: 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 (...)

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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 (...)

mylsEqual, 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 (...)

GFan: require version newer than (...)

GCD: add special case if args are (...)

Poly ring homomorphism to change (...)

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