

CoCoALib

	2018-12				2019-1					2019-2				2019-3				2019-4				2019-5			
	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
CoCoA CoCoALib MinPolyQuot not documented New function IsInSymbols CoCoALib releases on redmine CoCoALib - CoCoALib-0.99850 Release CoCoALib 0.99850 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 Cleanup MinPoly code	CoCoALib																								

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 constructor (...)
 Revive code for SelfSaturating (...)
 SLUG: factorization of x^{9999}
 Separate install script for CoCoALib?
 Canonical homomorphism for (some) (...)
 interval arithmetic
 Clean up SparsePolyOps-MonomialIdeals
 Naming convention mistakes
 IsZeroDet: new fn
 New function: SubmoduleOfGBasis
 Froby version number
 factor SEGV -- too large characteristic
 C++14: Use type auto where appropriate
 New function: MinPoly for pseudo-zero-dimensional (...)
 Ideals with trivial GBasis
 Tidy CoCoALib test directory
 Determinant & Inverse of matrix (...)
 Factor of multivariate sometimes (...)
 exgcd over integers (ZZ)
 PrimaryDecomposition: a interesting/pathological (...)
 C++14: use the new for loop syntax (...)
 ideal ctor where given gens are (...)

TmpLDP uses srand and time
RingID counter increased inside (...)
Type ideal for ZZ[x[1..n]]
GlobalManager: create SignalWatcher (...)
Oddly slow GBasis computation (slow (...))
Make class RingElemVector?
RadicalZeroDim with extra parameter (...)
Remove flag IhaveGBasisValue?
DenseMatrix: use template impl (...)
HNF: Hermite Normal Form
Start using C++14 "move" capability
What is the difference between (...)
mul(MAT,MAT,MAT)
Simple syntax for making a quotient (...)
Doc for normaliz fns
Documentation for SparsePolyOps?
Better test for univariate-ness (...)
Unexpectedly slow example with (...)
gfan does not "deinitialize"
Default ctor for rings
Doc for module term orderings
matrix.H and MatrixView.H
ker_H needs care
Use noexcept
DynamicBitset missing arg checks
cmp for machine integers
Detect updated versions of external (...)
Clean time.C
Documentation for PrimaryDecomposition
Unused variables, params, data (...)
NR for polys with coeffs in PID
interreduce: make monic if over (...)
rref slower than expected (maybe) (...)
Improve CertifyNotPower

txt2tags: problem with filenames (...)
geobucket: documentation
Compilation on Windows: problems (...)
GBasis over ZZ: port to CoCoALib
Generalize prim
Review File subtree hierarchy
Build also dynamic/shared library (...)
Review examples
release-source script: use shell (...)
Unsigned long for indexes (& sizes?)
IsIrred in ZZ[x,y]
RingBase::mySwap needed?
Shell scripts: Shebang line, etc
Threadsafety, multithreading: optional (...)
Symlink directory for external (...)
ProgressReporter: prepare for new (...)
Development releases?
ProductBigInt (also ProductBigRat???)
DivAlg in CoCoALib
Crufft in ExtLibs-Normaliz.C
ApplySPRCodomain: relax power/exponent (...)
FactorINT: funny order
Clean TmpGOperations, and remove (...)
Homogenization of an ideal with (...)
Suggestion about Graded polynomial (...)
MinGens gives non minimal gens (...)
MinGens could be faster
Implement Truncated GBases for (...)
Implement GBMill (aka Groebner (...)
July 2023
IdealOfPoints: allow duplicate (...)
deg(f) is slow if f is long
gcd(f,f) is slow
Verbosity messages: avoid printing (...)

VerificationLevel: just 3? Low, (...)
Homogenizer
Make CoCoALib test file for radical
Iterator design: compatible with (...)
CpuTimeOut: arg of type ErrorContext?
Use ErrorContext instead of string (...)
myFinalizeGBasis ("Final clean (...)
Computing in sub polyring
Conversion from SmallPrime to UNSIGNED (...)
BuildInfo
Error codes: "Not..." for "blah (...)
New constructor for PolyRing with (...)
Make ex-syz.C
Check include guards
Documentation: indexXX.html should (...)
CoCoALib - CoCoALib-0.99900
Redmine Administration
Design new errors using inheritance
Which names to use? Intersection/saturation (...)
New function: IdealWithIncrementalGBasis(l, (...)
Documentation: translation table
New class: exterior algebra
ideal: does const ourGetPtr really (...)
Create PolyOps-RingElem?
Move to C++14 (skipping C++11)
subresultant
HilbertDriven Buchberger Algorithm
Filling matrix row/col from a vector
GFan: port CoCoA_5 functions into (...)
Adjoin indets to a poly ring
Get indexed indets from a polyring
Idea for for loops
Extended rationals: PlusInfinity (...)
submat of a submat

SLUG: Printing PPs with many indets
Convenient RingHom pseudo-ctors
Factorization in $K(a,b)[x,y]$
ElimMat is slow
Sparse matrix (SparseMat)
Coding guidelines
Signal handler not portable?
Intersection of Ideals: has GBasis?
Implement monic0(f) for the case (...)
Add LM to cocoalib ?
MachineInt: chase through ULL (...)
Documentation: a good model to (...)
swap for new classes
Random and threadsafe?
Suggestion: Add "JumpTo" function (...)
Use C++ attributes
Finalize design for ideals in CoCoALib
Code & doc structure: one-big-file (...)
Add flag lhaveHomogGensValue (...)
Add function IsHomog3(l)?
Add new function for IsInRadical (...)
Add a function CleanupGens making (...)
Tidying ideal generators (for non-polynomial (...)
Improve trivial operations with (...)
Use long long (at least sometimes)?
Release CoCoALib 0.99900
Some tests have become slower
Ensure tests do not need too much (...)
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++****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**

<p>Global setting: to use IsProbPrime (...)</p> <p>PrimeField -- new fn?</p> <p>Modules design: brainstorming</p> <p>Compilation on M\$Windows: Visual (...)</p> <p>FreeModule: unique copy?</p> <p>Add doc for ApproxPts2</p> <p>submodule constructor different (...)</p> <p>C++ nasty surprises</p> <p>Why is DMPI slower than DMPClean?</p> <p>Module homs</p> <p>Missing documentation and tests (...)</p> <p>CoCoAServer: what future, what (...)</p> <p>Resolution/morse: integrate Mario (...)</p> <p>add resolution data type</p> <p>implement algorithm(s) for resolutions</p> <p>PPMonoidElemAlias: redesign PPMonoidElem (...)</p> <p>add myHilbertSeries member field (...)</p> <p>add myJBMill member field to ideal</p> <p>NewFreeModule of dimension 0</p> <p>Minimal syzygies (optimized implementation)</p> <p>Allow user to give a name to a (...)</p> <p>Error names and error messages (...)</p> <p>Semantics of IsPrintedWithMinus</p> <p>Improve UPoly eval at BigRat for (...)</p> <p>MemPool: order free blocks?</p> <p>Polynomial multiplication (product (...)</p> <p>Port RealRoots to C++</p> <p>Eigenvectors</p> <p>Which sets of generators in an (...)</p> <p>LinearSimplify: port to CoCoALib</p> <p>Unique copies of rings -- smart (...)</p> <p>Clang: automatic bug finding</p> <p>Documentation: write doc for RingDenseUPolyClean</p> <p>Quick/correct flag for bool3 fns</p>	
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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 (...)
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
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 (...)
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 (...)
GFan: require version newer than (...)
GCD: add special case if args are (...)
Poly ring homomorphism to change (...)
C++11: Mario's Hilbert scheme code
GlobalManager: name of object in (...)
RowMat, ColMat with arg an empty (...)
New "LF" function which is based (...)
JanetBasis gives error indet index (...)
GroebnerFan: slow examples
Printing ring for ideals (or just (...)
GroebnerFan: ERROR: Matrix must (...)
Slug: MakeTermOrd (rk calls in (...)
invalid pointer in "free"
WEB SITE: HTML is not clean!
Ctors for exceptions/errors
Pseudo-zero-dim ideals
Better printing of negative coeffs
SqFreeFactor: should it work over (...)
Organize better the documentation (...)
mySquare and myPowerSmallExp
New fn: transform ideal with ring (...)
Printing for RingElem
Clean up revised RatReconstructByContFrac (...)
Upper bound for value of poly in (...)
Matrix rank is slow (over QQ)
Non-standard DegRevLex (NonStdDegRevLex, (...)
New function: Threadsafe RandomLinearForm (...)
exgcd; solve Bezout equation
Make a poly ring QQ[x,y,z] also (...)
Ideal equality
Ideal Ops: sort-cuts for trivial (...)
Port old "clever" code for matrix (...)
Improve RealRoots: compute sqfr (...)

Improve RootBound

All PPs of given wdeg

gcd: low degree but big coeffs (...)

RandomUnimodularMat is slow with (...)

French students' example with GFan

Create two separate radical fns (...)

DynamicBitset::lamAll1s

Unified Gaussian reduction impl

Benchmarks?

C++17: notes about updating

slimgb: Brickenstein, singular

Clean out OLD CODE?

CoCoALib - removed/duplicates

CoCoALib: ideas for student projects