

## CoCoALib - CoCoALib-0.99600 (Aug 2018)

| #                          | Priority | Subject   | Assignee           | Updated           | Category        | % Done | Estimated time |
|----------------------------|----------|---|--------------------|-------------------|-----------------|--------|----------------|
| <b>Data Structures (1)</b> |          |   |                    |                   |                 |        |                |
| 1159                       | Normal   | Add global enum "verify/DontVerify"                                       | John Abbott        | 25 Jun 2018 15:06 | Data Structures | 100    | 1.1            |
| <b>Documentation (3)</b>   |          |   |                    |                   |                 |        |                |
| 1124                       | Normal   | Move examples directory into doc -- or just change makefile?              | Anna Maria Bigatti | 03 Aug 2018 17:04 | Documentation   | 100    | 5.01           |
| 1099                       | Urgent   | MinPolyQuot: missing doc  | Anna Maria Bigatti | 03 Aug 2018 14:32 | Documentation   | 100    | 1.0            |
| 847                        | Normal   | Doc for BigInt, BigIntOps, BigRat -- should there be BigRatOps?           | John Abbott        | 03 Aug 2018 15:53 | Documentation   | 100    | 7.7            |
| <b>Improving (8)</b>       |          |   |                    |                   |                 |        |                |
| 764                        | Normal   | ExternalLib: simplify configuration                                       | Anna Maria Bigatti | 03 Aug 2018 17:33 | Improving       | 100    | 1.55           |
| 1009                       | Normal   | coefficients for MinPoly e Frobenius                                      | Anna Maria Bigatti | 03 Aug 2018 17:16 | Improving       | 100    | 2.51           |
| 1165                       | Normal   | MinPoly over QQ: verification may be very slow                            | Anna Maria Bigatti | 03 Aug 2018 17:37 | Improving       | 100    | 7.7            |
| 1203                       | Normal   | factor over algebraic extensions  | Anna Maria Bigatti | 31 Jul 2018 13:13 | Improving       | 100    | 3.51           |
| 1205                       | Urgent   | SyzOfGens: bug with zero generators                                       | Anna Maria Bigatti | 03 Aug 2018 18:09 | Improving       | 100    | 5.01           |
| 1110                       | Normal   | Determinant of matrix over QQ (whose entries are actually integers)       | John Abbott        | 03 Aug 2018 15:56 | Improving       | 100    | 19.9           |
| 1162                       | Normal   | Check semantics of NoSmallFactorSeq                                       | John Abbott        | 03 Aug 2018 16:01 | Improving       | 100    | 5.55           |
| 1181                       | Normal   | CpuTime is costly!  | John Abbott        | 31 Jul 2018 14:25 | Improving       | 100    | 8.51           |
| <b>Maths Bugs (3)</b>      |          |   |                    |                   |                 |        |                |
| 1199                       | Normal   | GCD bug with high degree arg  | Anna Maria Bigatti | 03 Aug 2018 15:47 | Maths Bugs      | 100    | 3.33           |
| 1121                       | Normal   | PrevPrime and NextPrime anomalies   | John Abbott        | 03 Aug 2018 15:48 | Maths Bugs      | 100    | 0.22           |
| 1185                       | High     | factor: multivariate, wrong RemainingFactor (sign wrong)                  | John Abbott        | 31 Jul 2018 13:15 | Maths Bugs      | 100    | 4.51           |
| <b>New Function (12)</b>   |          |   |                    |                   |                 |        |                |
| 900                        | Normal   | New function: MinPoly of RingElem in quotient ring                        | Anna Maria Bigatti | 03 Aug 2018 17:31 | New Function    | 100    | 1.5            |
| 901                        | Normal   | New function: PrimaryDecomposition0 in CoCoALib                           | Anna Maria Bigatti | 03 Aug 2018 17:40 | New Function    | 100    | 11.1           |
| 1126                       | Normal   | New function: SubmoduleOfMinGens  | Anna Maria Bigatti | 02 Aug 2018 16:20 | New Function    | 100    | 4.0            |
| 1158                       | Normal   | New function: MinPolyQuotHeuristic --> MinPolyQuot with VerificationLevel | Anna Maria Bigatti | 02 Aug 2018 16:42 | New Function    | 100    | 4.0            |
| 1169                       | Normal   | New function: RandomLinearForm (CoCoALib)                                 | Anna Maria Bigatti | 02 Aug 2018 16:59 | New Function    | 100    | 2.21           |
| 1178                       | Normal   | New function: myPrimaryDecomposition_0dim                                 | Anna Maria Bigatti | 03 Aug 2018 17:41 | New Function    | 100    | 3.51           |
| 587                        | Normal   | port to CoCoALib: Homomorphism pkg (ker, IsInjective, IsSurjective..)     | John Abbott        | 03 Aug 2018 18:11 | New Function    | 100    | 18.8           |
| 1131                       | Normal   | Sturm sequence  | John Abbott        | 03 Aug 2018 16:05 | New Function    | 100    | 4.44           |
| 1154                       | Normal   | SmallFpImpI: new ctor arg to say do-not-check-that-arg-is-prime           | John Abbott        | 03 Aug 2018 16:14 | New Function    | 100    | 1.99           |

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|------------------------|-----------|--|--------------------|-------------------|--------------|--------|----------------|
| 1155                   | Normal    | Create a new "prime source" iterator                         | John Abbott        | 03 Aug 2018 16:11 | New Function | 100    | 22.2           |
| 1167                   | Normal    | New class VerificationLevel                                  | John Abbott        | 02 Aug 2018 17:29 | New Function | 100    | 2.01           |
| 374                    | Immediate | Porting "IdealOfProjectivePoints"                            | John Abbott        | 08 Feb 2019 20:56 | New Function | 100    | 1.99           |
| <b>Portability (1)</b> |           |  |                    |                   |              |        |                |
| 1005                   | Normal    | Makefile: install target for CoCoALib                        | John Abbott        | 03 Aug 2018 17:08 | Portability  | 100    | 4.44           |
| <b>Renaming (3)</b>    |           |  |                    |                   |              |        |                |
| 1163                   | Normal    | Split SparsePolyRing.C in smaller files                      | Anna Maria Bigatti | 02 Aug 2018 17:04 | Renaming     | 100    | 3.0            |
| 410                    | Normal    | New file: BigRatOps  | John Abbott        | 03 Aug 2018 16:15 | Renaming     | 100    | 0.22           |
| 1145                   | Normal    | File names, coding conventions: Fns, Ops, Operations? part 2 | John Abbott        | 03 Aug 2018 16:17 | Renaming     | 100    | 3.33           |
| <b>Safety (1)</b>      |           |  |                    |                   |              |        |                |
| 1180                   | Normal    | BigRat(0) unexpectedly compiles! (calls ctor with mpq_t arg) | John Abbott        | 15 Jan 2021 17:13 | Safety       | 100    | 7.7            |
| <b>Tidying (2)</b>     |           |  |                    |                   |              |        |                |
| 825                    | Normal    | IsPositiveGrading -- really need 2 signatures?               | John Abbott        | 03 Aug 2018 17:01 | Tidying      | 100    | 0.88           |
| 1182                   | Normal    | "mod" for BigInt   | John Abbott        | 03 Aug 2018 16:27 | Tidying      | 100    | 2.0            |
| <b>Various (3)</b>     |           |  |                    |                   |              |        |                |
| 1195                   | Normal    | Release: CoCoALib-0.99580 (together with CoCoA-5.2.4)        |                    | 06 Aug 2018 16:16 | Various      | 100    |                |
| 1149                   | Normal    | Release: CoCoALib-0.99600 (together with CoCoA-5.2.4)        | Anna Maria Bigatti | 09 Aug 2018 10:36 | Various      | 100    | 10.0           |
| 1177                   | Normal    | File names: use "SparsePolyOps" prefix for pertinent files   | Anna Maria Bigatti | 03 Aug 2018 16:18 | Various      | 100    | 6.66           |