

## CoCoALib - CoCoALib-0.99900 (Jul 2024)

| #                          | Priority | Subject   | Assignee           | Updated           | Category        | % Done | Estimated time |
|----------------------------|----------|---|--------------------|-------------------|-----------------|--------|----------------|
| <b>None (1)</b>            |          |   |                    |                   |                 |        |                |
| 1803                       | Normal   | Improve trivial operations with ideal whose GBasis is [1]   | Anna Maria Bigatti | 25 Mar 2024 19:06 |                 | 0      |                |
| <b>Data Structures (4)</b> |          |   |                    |                   |                 |        |                |
| 1784                       | Normal   | Add flag <code>IhaveHomogGensValue</code> for ideals in <code>SparsePolyRing</code> ?                 |                    | 01 Mar 2024 14:36 | Data Structures | 0      |                |
| 1767                       | Normal   | Finalize design for ideals in <code>CoCoALib</code>   |                    | 08 Mar 2024 17:26 | Data Structures | 10     |                |
| 1168                       | Normal   | ideal: does <code>const ourGetPtr</code> really need to be private?                                   |                    | 08 Mar 2024 17:26 | Data Structures | 40     | 8.0            |
| 1115                       | Normal   | New class: exterior algebra   | John Abbott        | 31 Jan 2024 21:59 | Data Structures | 20     |                |
| <b>Documentation (4)</b>   |          |   |                    |                   |                 |        |                |
| 1607                       | Normal   | Coding guidelines   |                    | 16 Feb 2024 10:02 | Documentation   | 0      |                |
| 1672                       | Normal   | Documentation: a good model to follow?  |                    | 16 Feb 2024 09:33 | Documentation   | 0      |                |
| 1066                       | Normal   | Documentation: translation table  | Anna Maria Bigatti | 08 Mar 2024 18:16 | Documentation   | 30     |                |
| 26                         | High     | Redmine Administration  | Anna Maria Bigatti | 23 Feb 2024 10:59 | Documentation   | 80     | 50.0           |
| <b>Improving (10)</b>      |          |   |                    |                   |                 |        |                |
| 1786                       | Normal   | Add new function for <code>IsInRadical</code> for monomial ideals? ( <code>RadicalMembership</code> ) | Anna Maria Bigatti | 01 Mar 2024 18:37 | Improving       | 10     | 1.0            |
| 1588                       | Low      | <code>ElimMat</code> is slow  |                    | 22 Mar 2024 09:29 | Improving       | 0      |                |
| 1582                       | Normal   | Factorization in $K(a,b)[x,y]$  |                    | 07 Mar 2024 20:23 | Improving       | 0      |                |
| 1645                       | Normal   | Implement <code>monic0(f)</code> for the case <code>monic(0)</code> ?                                 |                    | 16 Feb 2024 09:38 | Improving       | 10     |                |
| 1637                       | Low      | Intersection of Ideals: has GBasis?   |                    | 16 Feb 2024 17:25 | Improving       | 0      |                |
| 1518                       | Normal   | SLUG: Printing PPs with many indets   |                    | 15 Feb 2024 22:45 | Improving       | 20     |                |
| 1492                       | Low      | submat of a submat  |                    | 16 Feb 2024 17:28 | Improving       | 0      |                |
| 1692                       | Normal   | Suggestion: Add "JumpTo" function to prime iterators  |                    | 15 Feb 2024 22:39 | Improving       | 10     |                |
| 1682                       | Normal   | swap for new classes  |                    | 16 Feb 2024 09:35 | Improving       | 10     |                |
| 1802                       | Normal   | Tidying ideal generators (for non-polynomial ideals)  |                    | 25 Mar 2024 19:05 | Improving       | 0      |                |
| <b>New Function (15)</b>   |          |   |                    |                   |                 |        |                |
| 1797                       | Normal   | Add a function <code>CleanupGens</code> making some easy cleaning on the generators?                  |                    | 25 Mar 2024 19:16 | New Function    | 0      |                |
| 1785                       | Normal   | Add function <code>IsHomog3(l)</code> ?   |                    | 01 Mar 2024 14:53 | New Function    | 0      |                |
| 1652                       | Low      | Add LM to <code>cocoalib</code> ?   |                    | 15 Feb 2024 22:41 | New Function    | 10     |                |

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|------|----------|--|--------------------|-------------------|--------------|--------|----------------|
| 1468 | Normal   | Adjoin indets to a poly ring                       |                    | 15 Feb 2024 22:45 | New Function | 10     |                |
| 1532 | Normal   | Convenient RingHom pseudo-ctors                    |                    | 07 Mar 2024 21:34 | New Function | 10     |                |
| 1482 | Normal   | Extended rationals: PlusInfinity and MinusInfinity |                    | 16 Feb 2024 18:02 | New Function | 10     |                |
| 1437 | Normal   | Filling matrix row/col from a vector               |                    | 15 Feb 2024 22:46 | New Function | 0      |                |
| 1470 | Normal   | Get indexed indets from a polyring                 |                    | 07 Mar 2024 20:36 | New Function | 0      |                |
| 1441 | Normal   | GFan: port CoCoA_5 functions into CoCoALib         | Anna Maria Bigatti | 16 Feb 2024 17:54 | New Function | 0      |                |
| 1433 | Normal   | HilbertDriven Buchberger Algorithm                 | Anna Maria Bigatti | 16 Feb 2024 18:02 | New Function | 0      |                |
| 1472 | Low      | Idea for for loops                                 |                    | 16 Feb 2024 09:55 | New Function | 10     |                |
| 1815 | Normal   | JSON and UUID                                      |                    | 02 May 2024 19:58 | New Function | 10     |                |
| 949  | Normal   | New function: IdealWithIncrementalGBasis(l, f)     | Anna Maria Bigatti | 16 Feb 2024 18:03 | New Function | 0      |                |
| 1602 | Low      | Sparse matrix (SparseMat)                          |                    | 15 Feb 2024 22:42 | New Function | 0      |                |
| 1282 | Normal   | subresultant                                       |                    | 08 Mar 2024 17:54 | New Function | 20     |                |

### Portability (3)

|      |        |                                     |             |                   |             |    |  |
|------|--------|-------------------------------------|-------------|-------------------|-------------|----|--|
| 1225 | High   | Move to C++14 (skipping C++11)      |             | 08 Mar 2024 17:46 | Portability | 30 |  |
| 1630 | Normal | Signal handler not portable?        |             | 15 Feb 2024 22:42 | Portability | 0  |  |
| 1804 | Normal | Use long long (at least sometimes)? | John Abbott | 26 Apr 2024 21:09 | Portability | 80 |  |

### Renaming (1)

|     |        |   |  |                   |          |    |  |
|-----|--------|---|--|-------------------|----------|----|--|
| 942 | Normal | Which names to use? Intersection/saturation vs intersect/saturate |  | 22 Mar 2024 10:20 | Renaming | 20 |  |
|-----|--------|---|--|-------------------|----------|----|--|

### Safety (3)

|      |        |                                       |  |                   |        |    |  |
|------|--------|---------------------------------------|--|-------------------|--------|----|--|
| 1814 | Normal | Ensure tests do not need too much RAM |  | 23 Apr 2024 22:14 | Safety | 30 |  |
| 1691 | Normal | Random and threadsafe?                |  | 15 Feb 2024 22:38 | Safety | 0  |  |
| 1813 | Normal | Some tests have become slower         |  | 07 Apr 2024 21:53 | Safety | 10 |  |

### Tidying (5)

|      |        |   |             |                   |         |    |      |
|------|--------|---|-------------|-------------------|---------|----|------|
| 1783 | Normal | Code & doc structure: one-big-file or many-small-files? |             | 24 Feb 2024 18:34 | Tidying | 10 |      |
| 1213 | Normal | Create PolyOps-RingElem?                                |             | 16 Feb 2024 09:48 | Tidying | 0  |      |
| 385  | Urgent | Design new errors using inheritance                     | John Abbott | 09 Feb 2024 10:25 | Tidying | 40 | 35.0 |
| 1666 | Normal | MachineInt: chase through ULL changes                   |             | 16 Apr 2024 22:40 | Tidying | 10 |      |
| 1702 | Low    | Use C++ attributes                                      |             | 22 Apr 2024 21:26 | Tidying | 10 |      |

### Various (1)

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|------|----------|--------------------------|----------|-------------------|----------|--------|----------------|
| 1810 | Normal   | Release CoCoALib 0.99900 |          | 29 Mar 2024 09:00 | Various  | 0      |                |