CoCoALib - Support #1161

Split NumTheory.C into several smaller files

22 Feb 2018 17:35 - John Abbott

Status:	Closed	**Start date:**	22 Feb 2018
Priority:	Normal	**Due date:**	
Assignee:	John Abbott	**% Done:**	100%
Category:	Tidying	**Estimated time:**	21.70 hours
Target version:	CoCoALib-0.99700	**Spent time:**	21.60 hours

Description

The file **NumTheory.C** has become rather large. Consider splitting it into several smaller files.

Related issues:

Related to CoCoALib - Support #1160: Clean up revised RatReconstructByContFra...	**New**	**22 Feb 2018**
Related to CoCoA-5 - Support #1240: John's visit Feb 2019	**Closed**	**08 Feb 2019**

History

#1 - 22 Feb 2018 17:36 - John Abbott

Some suggestions for the subfiles:
primes, RatReconstruct, CRT

Note that there is no need to split the documentation correspondingly.

#2 - 22 Feb 2018 18:00 - John Abbott

- Related to Support #1160: Clean up revised RatReconstructByContFrac code added

#3 - 26 Feb 2018 15:41 - John Abbott

- Status changed from New to In Progress

- % Done changed from 0 to 20

I have split off the code to do with prime testing and generation. It is in **NumTheory-prime**
Note it is better not to use underscore in names because that causes trouble in the documentation (as LaTeX interprets underscores in a special way).

Made several changes too.

#4 - 27 Feb 2018 16:40 - John Abbott

I get a strange infinite loop on a 32-bit machine. Seems to be related to FastMostlyPrimeSeq.

Must investigate... but how many people really use 32-bit machines? Frustrating.

#5 - 12 Jun 2018 18:37 - John Abbott

- Target version changed from CoCoALib-0.99600 to CoCoALib-0.99650 November 2019

#6 - 26 Feb 2019 16:42 - John Abbott

In terms of compilation speed, it is probably not necessary to split NumTheory.C; my computer compiled the current version (about 2130 lines long, incl. 300 lines of log comments) in about 2s.

It may be helpful from an organizational point of view to split it; I do feel uneasy with such large source files.

Obvious partitions include: CRT, factor/IsSqfree, continued fractions, ratreconstruct.

#7 - 26 Feb 2019 16:42 - John Abbott

- Related to Support #1240: John's visit Feb 2019 added

#8 - 18 Mar 2019 14:33 - John Abbott

- % Done changed from 20 to 60

Current state:

- **NumTheory.C**
- **NumTheory-ContFrac.C**
- **NumTheory-CoprimeFactorBasis.C**
- **NumTheory-prime.C**
- **NumTheory-factor.C**
- **NumTheory-RatReconstruct.C**

Possible further splits: gcd/lcm, InvMod, PrimtiveRoot/MultOrder/Kronecker, SimplestRat, CRT

#9 - 01 Oct 2019 11:42 - John Abbott

- Target version changed from CoCoALib-0.99650 November 2019 to CoCoALib-0.99700

#10 - 04 Dec 2019 17:19 - John Abbott

- Target version changed from CoCoALib-0.99700 to CoCoALib-0.99800

Postponing because not important for CoCoA School.

#11 - 26 Jan 2020 15:50 - John Abbott

- Status changed from In Progress to Feedback

- Target version changed from CoCoALib-0.99800 to CoCoALib-0.99700

- % Done changed from 60 to 90

Now I think this is done:

```
NumTheory-ContFrac.H
NumTheory-CoprimeFactorBasis.H
NumTheory-CRT.H
NumTheory-factor.H
NumTheory-gcd.H
NumTheory-misc.H
NumTheory-modular.H
NumTheory-prime.H
NumTheory-RatReconstruct.H
NumTheory-SimplestRat.H
```

Let's see how we feel with NumTheory split into so many parts; if it works OK, we can consider splitting some other big files.

#12 - 12 Feb 2020 16:11 - John Abbott

- Status changed from Feedback to Closed

- % Done changed from 90 to 100

- Estimated time set to 21.70 h