Coding Sprints

From 4pm we will have a *Practical session* based on the Sage software. Depending on your goals/experience, you can program in any of the following languages:

- Sage (the easiest way if you do not have a c compiler)
- Python (the preferred way)
- Cython (for speed critical code)
- C/C++ and Cython (for real hackage)
- C/Pari (to contribute directly to the Pari/gp software)

Sage includes many libraries you may already be familiar with: GMP, NTL, Pari/gp, etc.

The practical side of the practical session

- Form work pairs, try to have at least one programmer with experience in Sage per pair.
- Pick a subject from `http://www.loria.fr/~zimmerma/ecc.html`, or suggest your own.
- The last stable Sage release is 4.7.1. Avail yourself of the spare time before/after lunch to install and compile it.
- Sage development is handled via Trac. Create an account on `http://trac.sagemath.org`. When your work will be complete, you will submit it on Trac for review, so that it will eventually get integrated into Sage.

Installing a Sage binary release on Linux/Mac

- Install a C++ compiler. Ex.: `gcc`/`g++` on Linux, XCode on Mac
- Go to `http://www.sagemath.org`, download the precompiled binaries from a mirror.
- Extract the files (requires `tar` and `lzip`).
- Cd into the Sage install and recompile by typing `./sage -b` (this is going take a while).
- Rebuild the documentation by typing

      ./sage -docbuild reference html

  (this will be long too).
- Now you are ready to create your own clone and start working. Follow the instructions on `http://www.loria.fr/~zimmerma/ecc.html`.

Installing a Sage source release on Linux/Mac

- ▶ Install a Fortran compiler. Ex.: `gfortran` on Linux, XCode on Mac.
- ▶ Install a C++ compiler, install `make`.
- ▶ Download the source release from a mirror. Extract the files (only `tar` required).
- ▶ Cd into the Sage install and type `make`. You can do a parallel build using two threads by typing `make -j2`. Go have lunch.
- ▶ Test that everything went well by typing `./sage`, then

    `./sage -tp 2 devel/sage`

    to test the library using two threads. Go have coffee.
- ▶ Now you are ready to create your own clone and start working. Follow the instructions on `http://www.loria.fr/~zimmerma/ecc.html`.

What if none of the previous methods works for me?

- Download Sage sources, modify some files.
- Create an account on `www.sagenb.org`.
- Create a new worksheet, paste your modified files to test them.