Contributing to PARI/GP

A tutorial

A. Page

Inria/Université de Bordeaux/IMB

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Reporting a bug

Doctesting

Contributing code

Before reporting the bug

- Check if the bug has already been reported: go to `https://pari.math.u-bordeaux.fr/Bugs/` or click on "Bugs" on the main page of the PARI website.
- Make sure you can reproduce the bug.
- It helps if you can find a small example.

Sending the report

- Send an email to `submit@pari.math.u-bordeaux.fr`
- Use a clear and descriptive Subject.
- Start your email by a pseudo-header:

```
Package: pari
Version: 2.18.1
```

  (or modify as appropriate).
- Describe the bug:
  - Include all the steps needed to reproduce the problem.
  - Include the error messages.
  - Describe the expected behaviour.
- Important: a single problem per bug report!

What is doctesting?

Reviewing the documentation of GP functions:

- Is the documentation understandable?
- Does the documentation correspond to what the function does?
- Do the examples work? (use $\backslash z$!)
- Propose improvements to the documentation.

How to improve the documentation

Option A: send us an email describing the improvement.

Option B (preferred): send us a patch.

Creating a patch

This assumes you are using a git distribution of PARI.

1. Open the file `src/functions/<section>/<function>`
2. Edit the paragraphs "Help:" (short help, plain text) and "Doc:" (long help, tex + Karim's macros).
3. `make install-doc` (check help)
4. `git commit -a` and write a commit message.
5. `git format-patch HEAD~` creates a file `xxx.patch`.
6. Send us the file. Thank you!

Important: a single function per patch!

Modifying the documentation of a section

You can also review and improve the introductory paragraph of a section:

`src/functions/<section>/HEADER`

Can I contribute code to PARI/GP?

Yes! You do not need to write library code yourself.
We can convert a GP script into C and include it in PARI/GP.

How to choose my first contribution?

- A single function (the implementation can use several).
- In an area that you are comfortable with.
- Part of a group of functions that already exist?
- Something that you already know how to do or you know a good reference for (not research).

What should I provide?

- Your GP implementation.
- A description of the functionality (text or latex).
- Some examples.
- Tests.

Thank you!